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Micrometer Measures of 2589 Double Stars

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PART III

MICROMETER MEASURES OF 258° DOUBLE STARS

By

CHARLES E. WORLEY

MICROMETER MEASURES OF 2589 DOUBLE STARS

INTRODUCTION

This publication lists 10,004 micrometer measures of 2589 double stars. Of these measures, 7425 were made with the 26-Inch (66-cm) refractor in Washington, D.C. and 2579 with the 36 and 60-Inch (91 and 155cm) reflectors at Cerro Tololo, Chile. Many pairs were measured in more than one season or with more than one telescope; thus, the total number of means tabulated in Table 2 is 3280.

OBSERVING PROGRAM

While the measures contained in this paper represent a continuation of the series presented earlier (Worley 1967, 1971, 1972a, 1972b, 1978), there has been a modification in the nature of some of the pairs observed, so that the present series contains a slight increase in the number of wider pairs measured. There are two reasons for this. First, in the last decade substantial numbers of the closer pairs have been observed by speckle interferometry, thus decreasing the need for measurement by the less accurate micrometer. Second,the completion of the **Washington Double Star Catalog, 1984.0** (Worley and Douglass 1984), revealed that numerous wide pairs had not received attention for many decades. In particular, there are numerous John Herschel pairs which have not been reobserved since their discovery in 1820--30. Modern observations not only serve to confirm the existence of these pairs, but also provide more precise measures than the rather crude estimates by Herschel. Another group of stars, the pairs detected by Kuiper among the nearby and bright stars in the 1930's, has also received attention. Otherwise, the program continues to emphasize close pairs in orbital motion, and also includes a substantial number of double stars recently discovered.

Observations at Cerro Tololo Inter-American Observatory began in 1970, and have been continued at intervals since. The measures included in Table 1 were all made with the 36 and 60-Inch reflectors in 1978, 1980, 1983, and 1984.

Table 1 gives the distribution of the pairs in measured separation, using the same group intervals chosen for previous lists. As remarked before, the fact that more than 60% of the measured separations are less than one second of arc continues to pay tribute to the quality of seeing at both Cerro Tololo and Washington.

Table 1

DISTRIBUTION OF PAIRS IN MEASURED SEPARATION

Measured Separations	Number	Percent	Cumulative Percent
<0".10	4	0.1	
0.10–0.19	247	7.5	7.6
0.20–0.29	505	15.4	23.0
0.30–0.39	355	10.8	33.8
0.40–0.49	256	7.8	41.6
0.50–0.59	208	6.3	47.9
0.60–0.79	281	8.6	56.5
0.80–0.99	232	7.1	63.6
1.00–1.39	383	11.7	75.3
1.40–1.99	380	11.6	86.9
>2.00	429	13.1	100.0

INSTRUMENTATION

There have been few changes in the 26-Inch telescope/micrometer combination since last described in 1978, except that a new printer was installed at the beginning of 1987. A number of incomplete observations are included in Table 2, owing to occasional defective operation of the printer or counters. Also, there have been problems with the R.A. clutch, and a persistent intermittent failure of the dome rotation due to stretching of the cable. The adopted screw value of the micrometer, R, is 11.04 arc seconds.

The former Lamont-Hussey micrometer has been on permanent loan to Cerro Tololo for some time. In 1975–76 the writer made some minor changes to this instrument. New Plössl-type eyepieces were secured, and the micrometer wires replaced with ones made of etched tungsten. The wire illumination was also improved. Adopted screw values, R, for the 36 and 60-Inch reflectors were 10.28 and 6.27 arc seconds, respectively.

ACKNOWLEDGEMENTS

Maintenance of the 26-Inch telescope and micrometer has been the responsibility of W.L. Dunn, Jr., and J.L. Hershey. I am especially indebted to G.G. Douglass for production of the large table.

Observations in Chile were obtained while I was a Visiting Astronomer at Cerro Tololo Inter-American Observatory, which is supported by the National Science Foundation. I wish to thank successive directors V.M. Blanco and P.S. Osmer, as well as their staff, for their courtesy and able help, which ensured the success of these observations.

REFERENCES

Worley, C.E.
1967 Pub. U.S. Naval Obs. **XVIII**, Pt. VI.
1971 Ibid., **XXII**, Pt. II.
1972a Ibid., **XXII**, Pt. IV.
1972b Astron. J. **77**, 878.
1978 Pub. U.S. Naval Obs. **XXIV**, Pt. VI.
Worley, C.E. and Douglass, G.G.
1984 The Washington Double Star Catalog, 1984.0. (WDS). Available on tape.

DESCRIPTION OF TABLE 2.

Table 2 contains 10,004 measures of 2589 double stars. Each pair is represented first by a heading, followed successively by the individual measures, the mean positions, and residuals and notes. The closing date for means included in this table is 1988.0.

The Heading

Left side. The ADS number is given first. In the absence of an ADS number, the space is left blank. There then follows the discoverer's designation and number, using the abbreviations listed in the WDS.
Right side. The right ascension and declination for 2000, according to the current values listed in the WDS.

The Individual Measures

Column 1: The decimal date of the observation.

Column 2: The measured position angle.

Column 3: The measured separation.

Column 4: Position of the eyes:
1 = eyes perpendicular to the line joining the stars;
2 = eyes parallel;
3 = a combination of positions 1 and 2;
4 = star images placed between, and perpendicular to, both wires.

Column 5: The seeing on a scale of 10, with seeing 1 being very poor, and 10 perfect. In practice, observations were rarely made in seeing 3 or worse.

Column 6: The hour angle in tenths of an hour.

Column 7: The nominal magnifying power used.

26-Inch refractor:
1 = 20mm Plössl, 500X.
2 = 16mm Plössl, 620X.
3 = 12mm Plössl, 820X.
4 = 10mm Plössl, 990X.
5 = 8mm Plössl, 1230X.

36-Inch reflector:
1 = 25mm Plössl, 500X,
2 = 20mm Plössl, 615X,
3 = 16mm Plössl, 770X,
4 = 12mm Plössl, 1025X,

60-Inch reflector:
850X.
1060X.
1330X.
1770X.

Column 8: The estimated magnitude difference.

Column 9: The telescope used.

The Means

Column 1: The mean date.

Column 2: The mean position angle.

Column 3: The mean separation.

Column 4: The number of nights of observation.

Column 5: The mean magnitude difference.

Column 6: The telescope used.

TABLE 3

INDIVIDUAL MEASURES AND MEANS

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

17156 WEI 45 00 00.2 +01 46

81.897	86.1	2.03	2	6	-0.3	3	0.4	26	
81.960	87.0	1.91	2	5	-0.1	3	0.4	26	
84.946	84.9	1.90	2	6	-0.1	3	0.5	26	
82.934	86.0	1.95	3n		0.4			26-Inch	

I 1477 00 00.3 -44 18

78.770	312.3	0.51	2	5	+0.1	1	0.5	36	
78.773	312.4	0.43	2	5	+0.3	1	0.3	36	
78.781	307.9	0.41	2	5	+0.3	1	0.6	36	
78.775	310.9	0.45	3n		0.5			36-Inch	

17178 HLD 60 00 01.4 +39 38

77.760	185.1	1.04	2	5	-0.1	3	0.6	26	
77.946	184.4	1.20	2	6	0.0	3	0.2	26	
77.995	187.2	1.12	2	5	+0.1	3	0.3	26	
81.787	183.1	1.30	2	7	-0.3	4	0.4	26	
81.826	183.9	1.21	2	6	-0.1	4	0.4	26	
81.842	184.2	1.00	2	6	-1.0	4	0.3	26	
81.864	185.0	1.07	2	4	-0.4	3	0.4	26	
77.900	185.6	1.12	3n		0.4			26-Inch	
81.830	184.0	1.14	4n		0.4			26-Inch	

Heintz, 1963: +2.1, +0.10; +2.4, +0.08.

17167 HO 208 00 01.5 +30 44

79.718	199.3	1.16	2	4	-0.1	3	2.0	26	
79.797	201.7	1.06	1	7	0.0	4	2.0	26	
79.885	201.2	1.12	2	7	-0.2	4	1.6	26	
79.890	202.8	1.14	2	5	-0.3	3	1.6	26	
79.822	201.2	1.12	4n		1.8			26-Inch	

17176 FOX 52 00 02.2 +57 16

86.808	139.6	2.63	2	5	0.0	3	0.3	26	
86.824	137.0	2.43	2	6	0.0	3	0.3	26	
86.830	134.2	2.33	2	7	-0.1	3	0.2	26	
86.821	136.9	2.46	3n		0.3			26-Inch	

17180 A 1249 00 02.4 +10 46

81.897	244.1	0.27	2	5	-0.3	3	0.6	26	
81.897	244.1	0.27	1n		0.6			26-Inch	

3 A 1499 00 02.6 +55 34

86.824	205.4	1.48	2	6	0.0	3	1.0	26	
86.830	205.6	1.49	2	7	-0.1	3	1.2	26	
86.884	206.6	1.51	2	7	-0.2	3	0.6	26	
86.994	207.7	1.48	2	7	-0.3	3	0.8	26	
86.883	206.3	1.49	4n		0.9			26-Inch	

4 A 428 00 02.6 -08 30

84.773	17.2	0.30	2	5	0.0	3	0.3	60	
84.782	9.9	0.28	2	6	-0.4	3	0.4	60	
84.784	14.0	0.29	1	5	+0.2	3	0.2	60	
84.790	20.1	0.24	2	8	+0.2	3	0.3	60	
84.782	15.3	0.28	4n		0.3			60-Inch	

Heintz, 1969: +0.1, -0.03.
Zulevic, 1984: +1.5, +0.01.

17 A 1500 00 03.3 +53 32

86.830	243.1	0.30	2	7	-0.1	3	0.3	26	
86.884	239.7	0.28	2	7	0.0	3		26	
86.994	239.4	0.30	2	6	-0.1	3		26	
86.903	240.7	0.29	3n		0.3			26-Inch	

WOR 30 00 03.7 +53 28

86.830	183.8	0.92	2	6	0.0	3	1.0	26	
86.884	182.5	0.86	2	7	-0.1	3	0.7	26	
86.994	183.5	0.89	2	6	-0.2	3	1.2	26	
86.903	183.3	0.89	3n		1.0			26-Inch	

I 700 00 03.9 -57 50

84.795	288.2	0.42	2	5	0.0	4	0.2	36	
84.798	291.2	0.42	2	8	-0.1	4	0.1	36	
84.801	290.0	0.42	2	6	0.0	4	0.0	36	
84.798	289.8	0.42	3n		0.1			36-Inch	

32 STF 3056 00 04.6 +34 16

79.885	147.5	0.77	2	7	-0.1	4	0.2	26	
79.890	144.6	0.75	2	5	-0.2	3	0.3	26	
79.956	147.6	0.81	2	6	-0.3	3	0.0	26	
79.910	146.6	0.78	3n		0.2			26-Inch	

34 BU 862 00 04.7 +38 10

81.787	10.1	0.47	2	7	-0.2	4	0.3	26	
81.826	10.7	0.57	2	6	-0.1	4	0.3	26	
81.842	9.3	0.52	2	6	-1.0	4	0.5	26	
81.818	10.0	0.52	3n		0.4			26-Inch	

Couteau, 1986: +2.0, -0.01.

44 J 629 00 05.0 +21 25

81.787	303.5	1.68	2	7	-0.1	4	1.4	26	
81.826	303.0	1.51	2	7	-0.1	4	1.0	26	
81.867	303.5	1.44	2	5	-0.1	3	1.0	26	
81.827	303.3	1.54	3n		1.1			26-Inch	

54 J 865 00 05.5 +27 36

77.760	78.5	1.63	2	5	-0.1	3	0.8	26
77.946	78.9	1.48	2	6	+0.1	3	1.4	26
77.995	81.2	1.53	2	5	+0.1	3	0.8	26
77.900	79.5	1.55	3n		1.0			26-Inch

55 A 110 00 05.8 +42 39

79.890	125.4	2.17	2	5	-0.2	3	0.2	26
79.956	125.8	2.17	2	6	0.2	3	0.1	26
80.890	124.6	2.14	2	6	+0.1	3	0.1	26
80.245	125.3	2.16	3n		0.1			26-Inch

57 BU 863 00 05.9 +73 35

79.885	123.6	1.93	2	7	0.0	4	0.7	26
79.890	125.6	1.95	2	5	-0.2	3	0.5	26
79.915	125.9	2.08	2	6	-0.3	3	0.8	26
79.897	125.0	1.99	3n		0.7			26-Inch

RST 5180 00 05.9 -30 20

78.792	318.0	0.26	2	6	0.0	1	0.3	60
78.803	322.9	0.20	2	5	+0.2	1	0.6	60
78.806	318.3	0.28	2	6	+0.3	1	0.5	60
78.800	319.7	0.25	3n		0.5			60-Inch

Fifty degrees direct motion.

62 J 143 00 06.0 +13 15

77.746	88.4	2.46	2	6	0.0	4	0.1	26
77.760	87.4	2.61	2	5	0.0	3	0.6	26
77.946	87.4		2	6	+0.2	3	0.3	26
77.995	91.2	2.66	2	5	+0.2	3	0.6	26
77.862	88.6	2.58	3n		0.4			26-Inch

63 HU 401 00 06.1 +23 46

78.836	217.7	0.77	2	5	0.0	3	0.4	26
78.932	218.1	0.76	2	6	0.0	3	0.3	26
78.948	223.8	0.72	3	4	-0.4	3		26
78.905	219.9	0.75	3n		0.4			26-Inch

61 STF 3062 00 06.2 +58 26

78.836	282.2	1.41	2	6	-0.1	3	0.8	26
78.932	284.6	1.36	2	7	-0.2	3	0.8	26
78.948	286.2	1.48	2	5	-0.5	3	1.0	26
79.011	286.0	1.46	2	5	+0.1	3	1.0	26
81.787	289.7	1.36	2	6	-0.2	4	0.9	26
81.826	290.9	1.37	2	6	-0.1	4	1.0	26
81.842	292.9	1.36	2	7	-1.0	4	1.0	26
81.864	290.7	1.45	2	4	-0.3	3	1.0	26
84.946	296.3	1.38	2	7	-0.2	3	0.8	26
84.962	297.9	1.28	2	6	-0.3	3	1.0	26
85.967	297.8	1.55	2	5	-0.3	3	0.8	26
85.997	300.6	1.46	2	5	-0.3	3	0.8	26
78.932	284.6	1.43	4n		0.9			26-Inch
81.830	291.0	1.38	4n		1.0			26-Inch
85.468	298.2	1.42	4n		0.8			26-Inch

Baize, 1957: -0.2, 0.00; -0.2, -0.05; -0.7, -0.02.

74 HU 1 00 06.7 -12 10

84.787	111.2	1.05	2	5	+0.1	3	0.8	60
84.790	106.0	1.02	2	7	+0.2	3	1.3	60
84.793	107.6	0.96	2	7	-0.1	3	1.2	60
84.790	108.3	1.01	3n		1.1			60-Inch

73 BU 1155 00 06.8 +04 27

81.787	84.0	0.50	2	6	0.0	4	1.0	26
81.826	86.8	0.67	2	5	0.0	4	1.0	26
81.864	85.4	0.54	2	4	-0.2	3	0.5	26
81.826	85.4	0.57	3n		0.8			26-Inch

80 KU 3 00 07.4 +20 29

79.718	77.2	0.98	2	5	-0.1	3	0.1	26
79.797	79.2	0.89	2	8	-0.1	4	0.1	26
79.885	76.6	0.98	2	7	0.0	4	0.0	26
79.800	77.7	0.95	3n		0.1			26-Inch

HDO 181 00 09.0 -54 00

78.781	317.9	0.19	2	6	+0.3	1	0.8	36
78.784	313.5	0.25	1	6	+0.1	1	0.7	36
78.787	326.7	0.21	2	7	+0.4	1	0.6	36
78.789	320.7	0.23	1	7	+0.2	1	1.2	36
78.785	319.7	0.22	4n		0.8			36-Inch

102 STF 2 00 09.3 +79 43

79.885	26.5	0.52	1	7	0.0	4	0.4	26
79.890	27.4	0.60	1	5	-0.1	3	0.2	26
79.945	26.0	0.61	2	5	+0.1	3	0.3	26
84.946	19.1	0.59	1	7	-0.2	3	0.3	26
84.962	22.8	0.62	1	5	-0.3	3	0.2	26
85.967	22.5	0.70	1	5	-0.2	3	0.2	26
85.997	21.9	0.60	1	5	-0.3	3	0.2	26
79.907	26.5	0.58	3n		0.3			26-Inch
85.468	21.6	0.63	4n		0.2			26-Inch

Scardia, 1980: +2.0, -0.04; -0.7, -0.03.

112 ES 745 00 09.5 +50 17

84.962	181.3	2.83	2	5	-0.2	3	0.6	26
85.967	182.4	2.93	2	5	-0.1	3	1.0	26
85.997	184.0	2.67	2	5	-0.2	3	0.7	26
85.642	182.6	2.81	3n		0.8			26-Inch

HU 1328 00 10.1 -49 09

84.795	265.5	0.93	2	4	0.0	4	0.2	36
84.798	267.3	0.91	2	8	-0.1	4	0.2	36
84.801	269.8	0.83	2	7	0.0	4	0.2	36
84.798	267.5	0.89	3n	0.2			36-Inch	

124 BU 253 00 10.4 +58 31

86.830	33.1	0.46	2	6	0.0	3	0.4	26
86.884	32.7	0.55	2	7	-0.1	3	0.3	26
86.994	33.8	0.50	2	6	-0.1	3	0.5	26
86.903	33.2	0.50	3n	0.4			26-Inch	

I 43 00 10.6 -73 14

84.798	235.4	0.20	2	8	0.0	4	0.6	36
84.801	238.7	0.18	2	5	+0.1	4	0.8	36
84.800	237.0	0.19	2n	0.7			36-Inch	

Closed in. Retrograde motion of 90 degrees. No observations 1931-1977.

RST 4140 00 11.2 -08 53

84.773	309.2	1.04	2	5	0.0	3	0.2	60
84.782	313.9	0.89	2	6	-0.4	3		60
84.784	312.2	1.00	2	4	+0.1	3	0.1	60
84.780	311.8	0.98	3n	0.0			60-Inch	

Angular increase.

RST 2 00 11.3 -47 02

84.798	91.6	0.44	2	8	+0.1	4	0.2	36
84.801	86.8	0.44	2	5	0.0	4	0.2	36
84.800	89.2	0.44	2n	0.2			36-Inch	

Retrograde motion with increasing separation.

142 HO 1 00 11.5 +29 36

79.718	164.2	1.31	2	5	-0.2	3	0.2	26
79.797	163.4	1.25	2	7	0.0	4	0.2	26
79.846	161.9	1.28	2	6	+0.2	4	0.2	26
79.787	163.2	1.28	3n	0.2			26-Inch	

143 STF 7 00 11.7 +55 57

86.808	208.6	1.38	1	5	0.0	3	0.4	26
86.824	211.7	1.30	2	6	0.0	3	0.4	26
86.830	209.9	1.34	2	6	0.0	3	0.5	26
86.88-	211.4	1.34	2	7	0.0	3	0.6	26
86.836	210.4	1.34	4n	0.5			26-Inch	

148 BU 1026 00 12.1 +53 37

79.885	17.2	0.15	2	7	0.0	4	0.8	26
79.956	8.5	0.14	2	6	-0.2	3		26
80.928	17.0	0.18	2	5	0.0	4		26
80.256	14.2	0.16	3n	0.8			26-Inch	

Eggen, 1965(1): +2.1, -0.02.
Baize, 1984: -3.8, 0.00.
Starikova, 1985: -8.9, +0.02.
McAlister et. al. have detected a third star in the system.

RST 3343 00 12.6 -11 42

78.792	213.8	0.21	1	6	0.0	1	0.2	60
78.803	214.6	0.18	2	5	+0.2	1	0.0	60
78.806	213.6	0.20	2	7	+0.3	1	0.2	60
78.800	214.0	0.20	3n	0.1			60-Inch	

Direct motion of 80 degrees since discovery.

156 BU 864 00 13.1 +35 20

79.718	142.5	2.46	2	5	-0.1	3	3.4	26
79.956	141.8	2.28	2	7	-0.2	3	3.5	26
79.837	142.2	2.37	2n	3.4			26-Inch	

161 STT 2 00 13.4 +26 59

81.897	201.8	0.28	2	6	-0.3	3	1.4	26
81.897	201.8	0.28	1n	1.4			26-Inch	

Heintz, 1979: +7.2, +0.04.

163 A 1254 00 13.6 +44 11

76.955	271.8	1.42	2	5	-0.1	3	0.5	26
77.746	274.6	1.36	2	7	0.0	4	0.6	26
77.760	274.1	1.41	2	6	-0.1	3	0.4	26
77.487	273.5	1.41	3n	0.5			26-Inch	

176 A 902 00 14.3 +60 20

81.787	321.6	0.78	2	7	0.0	4	2.6	26
81.787	321.6	0.78	1n	2.6			26-Inch	

Other attempts to see the companion have failed.

B 636 00 16.0 -61 48

78.770	104.8	2.45	2	5	+0.1	1	0.7	36
78.773	106.3	2.33	2	5	+0.1	1	0.2	36
78.784	105.8	2.19	2	7	+0.1	1	0.2	36
78.776	105.6	2.32	3n	0.4			36-Inch	

207 STF 13 00 16.3 +76 57

79.885	59.5	0.88	2	8	0.0	4	0.2	26	
79.890	60.6	0.82	2	5	0.0	3	0.2	26	
79.923	61.4	0.94	2	4	-0.3	4	0.5	26	
79.899	60.5	0.88	3n		0.3			26-Inch	

Heintz, 1960: +3.4, +0.02.

219 HU 405 00 16.6 +24 33

78.948	290.5	1.39	2	5	-0.4	3	0.2	26	
79.718	289.3	1.27	2	5	-0.1	3	0.1	26	
79.797	289.5	1.30	2	7	0.0	4	0.1	26	
79.488	289.8	1.32	3n		0.1			26-Inch	

220 STF 19 00 16.7 +36 37

84.946	136.1	2.33	2	7	0.0	3	2.0	26	
84.962	137.9	2.16	2	5	-0.2	3	2.4	26	
85.967	136.8	2.32	2	5	0.0	3	1.4	26	
85.292	136.9	2.27	3n		1.9			26-Inch	

221 STT 4 00 16.7 +36 29

81.867	174.6	0.49	2	5	-0.1	3	0.7	26	
81.897	177.2	0.45	2	6	-0.3	3	0.8	26	
84.962	168.4	0.41	2	5	-0.2	3	0.8	26	
82.909	173.4	0.45	3n		0.8			26-Inch	

Muller, 1957: +5.1,-0.09.
Scardia, 1982: +0.1,-0.08.
Starikova, 1983: -0.4,-0.08.

227 HU 3 00 17.0 -10 20

84.784	108.0	1.60	2	5	+0.1	3	0.0	60	
84.787	108.8	1.49	2	6	0.0	3	0.1	60	
84.790	105.9	1.53	2	7	+0.2	3	0.1	60	
84.787	107.6	1.54	3n		0.1			60-Inch	

231 J 869 00 17.2 +33 17

77.760	248.2	1.57	2	6	0.0	3	0.0	26	
77.995	252.2	1.63	2	5	+0.2	3	0.0	26	
78.836	248.6	1.68	2	5	-0.1	3	0.2	26	
78.197	249.7	1.63	3n		0.1			26-Inch	

ES 2274 00 17.4 +33 03

77.946	172.1	2.00	1	5	+0.1	3	0.8	26	
81.842	177.7	1.84	2	6	+0.2	4	1.6	26	
81.897	174.9	1.87	2	6	-0.3	3	1.4	26	
80.562	174.9	1.90	3n		1.3			26-Inch	

240 A 1804 00 17.4 +10 02

81.897	29.7	1.31	2	6	-0.3	3	1.0	26	
84.946	28.4	1.13	2	7	0.0	3	0.5	26	
84.962	29.6	1.10	1	5	-0.1	3	1.0	26	
83.935	29.2	1.18	3n		0.8			26-Inch	

251 BU 393 00 18.3 -21 09

78.792	25.6	0.57	2	6	0.0	1	0.7	60	
78.803	24.2	0.69	1	4	+0.2	1	0.8	60	
78.808	25.0	0.63	2	5	0.0	1	0.6	60	
78.801	24.9	0.63	3n		0.7			60-Inch	

274 J 630 00 20.2 +21 29

78.836	114.8	2.75	2	6	0.0	3	1.0	26	
78.932	114.9	2.73	2	7	-0.1	3	0.4	26	
78.948	116.4	2.79	2	5	-0.4	3	0.6	26	
78.905	115.4	2.76	3n		0.7			26-Inch	

281 BU 1015 00 20.7 +12 18

78.836	59.6	0.20	2	5	0.0	3		26	
78.932	59.9	0.24	2	6	-0.1	3	0.0	26	
78.948	64.6	0.22	2	5	-0.4	3	0.2	26	
81.867	75.5	0.25	2	5	-0.1	3	0.0	26	
81.897	72.6	0.26	2	5	+0.2	3		26	
78.905	61.4	0.22	3n		0.1			26-Inch	
81.882	74.0	0.26	2n		0.0			26-Inch	

Baize, 1973: +0.3, -0.06; +5.3, -0.05.

279 HJ 1019 00 20.8 +60 03

79.885	225.2	0.25	2	7	+0.1	4	0.5	26	
79.956	229.1	0.27	2	6	-0.2	3	0.4	26	
79.920	227.2	0.26	2n		0.4			26-Inch	

Nearly a quadrant described since my last measure in 1967.

283 HJ 1018 00 20.9 +67 40

79.885	89.1	1.59	2	8	0.0	4	0.5	26	
79.890	89.7	1.55	2	5	-0.1	3	0.4	26	
79.923	90.7	1.65	2	4	-0.3	4	0.6	26	
79.899	89.8	1.60	3n		0.5			26-Inch	

Muller, 1956: +3.5, +0.16.

291 HU 1202 00 21.2 +35 39

76.955	200.8	1.06	2	4	-0.2	3	0.5	26	
77.746	201.3	1.10	2	6	0.0	4	0.5	26	
77.760	201.3	1.16	2	5	0.0	3	0.4	26	
77.487	201.1	1.11	3n		0.5			26-Inch	

293 STT 6 00 21.3 +67 00

79.885	159.0	0.47	2 7 +0.1 4 0.6 26
79.956	161.0	0.47	2 7 -0.1 3 0.8 26
80.659	156.1	0.48	2 7 -0.1 4 1.0 26
80.167	158.7	0.47	3n 0.8 26-Inch

Muller, 1953: +7.3,-0.15. The orbit fails.

296 STT 7 00 21.7 +66 28

79.885	126.7	0.88	2 7 +0.2 4 0.7 26
79.956	125.8	0.76	2 7 -0.1 3 0.7 26
80.659	124.8	0.91	2 7 0.0 4 0.8 26
80.167	125.8	0.85	3n 0.7 26-Inch

302 RST 5493 BC 00 21.8 -23 01

78.806	92.3	0.12	2 7 +0.3 1 0.2 60
78.808	88.0	0.14	2 5 +0.4 1 0.0 60
78.807	90.2	0.13	2n 0.1 60-Inch

304 A 907 00 22.6 +54 17

81.867	216.3	0.79	2 5 0.0 3 0.3 26
81.897	215.6	0.79	2 6 -0.1 3 0.2 26
84.946	213.1	0.71	2 6 +0.1 3 0.2 26
82.903	215.0	0.76	3n 0.2 26-Inch

RST 1186 00 22.9 -28 52

78.806	220.4	0.26	2 6 +0.4 1 0.0 60
78.808	228.1	0.26	2 5 +0.5 1 0.0 60
78.807	224.2	0.26	2n 0.0 60-Inch

RST 2243 00 23.3 -54 10

78.770	142.2	0.84	2 4 +0.1 1 0.5 36
78.781	145.6	0.77	2 4 +0.2 1 0.4 36
78.784	145.3	0.98	2 7 +0.1 1 0.6 36
78.778	144.4	0.86	3n 0.5 36-Inch

325 A 1805 00 24.0 +09 55

84.962	314.9	4.23	4 5 0.0 3 2.8 26
86.808	320.3	5.05	2 5 -0.1 3 3.5 26
87.000	316.5	4.65	2 5 -0.1 3 3.2 26
86.257	317.2	4.64	3n 3.2 26-Inch

VOU 83 00 24.2 -13 05

84.773	61.0	0.56	2 6 -0.1 3 0.0 60
84.784	64.2	0.38	2 4 +0.1 3 60
84.787	57.4	0.42	2 6 0.0 3 0.2 60
84.781	60.9	0.45	3n 0.1 60-Inch

This is the only measure since discovery. Angular increase.

329 HO 491 00 24.4 +36 29

76.955	208.8	1.19	2 4 -0.2 3 0.3 26
77.746	208.3	1.18	2 6 0.0 4 0.6 26
77.760	209.5	1.21	2 5 0.0 3 0.4 26
77.487	208.9	1.19	3n 0.4 26-Inch

Quadrant reversed.

349 J 632 00 25.9 +04 07

78.932	81.5	1.83	2 7 0.0 3 0.0 26
78.948	81.8	2.03	2 5 -0.4 3 0.0 26
79.797	79.6	1.86	2 7 -0.1 4 0.0 26
79.226	81.0	1.91	3n 0.0 26-Inch

350 STT 9 00 26.3 +56 47

81.867	56.3	2.02	2 5 0.0 3 2.4 26
81.897	54.0	1.93	2 7 -0.1 3 3.0 26
82.825	55.2	1.90	2 6 -0.4 3 2.2 26
82.196	55.2	1.95	3n 2.5 26-Inch

355 BU 1156 00 26.7 +64 26

79.956	32.3	0.52	2 5 -0.1 3 0.3 26
80.890	36.6	0.69	2 5 0.0 3 0.7 26
81.787	28.3	0.52	2 7 -0.2 4 0.4 26
81.826	34.1	0.59	2 6 -0.1 4 0.6 26
82.825	37.7	0.50	2 6 -0.1 4 0.6 26
81.456	33.8	0.56	5n 0.5 26-Inch

357 MLB 277 00 27.0 +64 30

82.825	74.2	6.93	2 6 -0.3 3 0.2 26
86.824	72.7	6.60	2 7 -0.2 3 0.3 26
86.830	73.8	6.66	2 7 -0.2 3 0.8 26
85.493	73.6	6.73	3n 0.4 26-Inch

363 A 431 00 27.1 -07 53

74.912	67.0	0.29	2 6 -0.2 3 0.0 26
78.789	58.3	0.33	2 7 +0.3 1 0.0 36
78.792	59.5	0.28	2 6 0.0 1 0.1 60
78.796	57.4	0.29	2 5 +0.3 1 0.0 60
74.912	67.0	0.29	1n 0.0 26-Inch
78.789	58.3	0.33	1n 0.0 36-Inch
78.796	58.4	0.28	2n 0.0 60-Inch

Zulevic, 1971: -1.1, +0.03; -0.1, +0.02; 0.0, -0.03.

I 44 00 28.2 -54 38

84.798	260.0	0.49	2 7 -0.1 4 0.6 36
84.801	256.0	0.45	2 6 0.0 4 0.4 36
84.800	258.0	0.47	2n 0.5 36-Inch

B 1909 00 28.3 -20 20

78.792	269.2	0.13	2	7	+0.1	1	0.0	60
78.803	262.7	0.16	2	4	+0.1	1	0.0	60
78.806	266.2	0.13	2	7	+0.4	1	0.0	60
78.800	266.0	0.14	3n		0.0		60-Inch	

van den Bos, 1956 (1): -13.2, -0.01.
(2): -13.0, -0.02.

R 3 00 28.3 -65 55

78.770	246.5	1.71	2	4	+0.1	1	1.8	36
78.781	249.9	1.69	2	5	+0.2	1	1.5	36
78.784	243.9	1.63	2	7	+0.1	1	2.0	36
78.778	246.8	1.68	3n		1.8		36-Inch	

385 HU 601 00 28.7 +21 34

78.932	307.0	0.42	2	7	0.0	3	0.5	26
78.948	313.5	0.41	2	5	-0.4	3	0.5	26
79.797	307.8	0.54	2	7	-0.1	4	0.5	26
79.226	309.4	0.46	3n		0.5		26-Inch	

416 BU 394 00 30.8 +47 32

86.824	310.2	0.19	2	7	-0.1	3		26
86.830	298.3	0.13	2	7	-0.1	3		26
86.884	304.0	0.15	2	8	-0.1	3		26
86.994	298.9	0.10	2	6	-0.2	3		26
86.883	302.8	0.14	4n				26-Inch	

Closed in and too close for good measures with the 26-inch.

417 ES 1129 00 30.9 +49 17

76.788	263.7	1.10	2	5	-0.1	3	0.4	26
76.966	265.3	1.23	2	7	0.0	4	0.3	26
77.746	266.2	1.10	2	6	0.0	4	0.2	26
77.167	265.1	1.14	3n		0.3		26-Inch	

426 BU 1158 BC 00 31.0 -10 05

78.789	39.1	0.24	2	7	+0.1	1	0.0	36
84.787	61.0	0.20	2	5	0.0	3	0.0	60
84.790	62.2	0.18	2	6	0.0	3	0.2	60
84.793	63.0	0.19	2	6	-0.3	3	0.0	60
78.789	39.1	0.24	1n		0.0		36-Inch	
84.790	62.1	0.19	3n		0.1		60-Inch	

Direct motion now fairly rapid.

I 260 CD 00 31.6 -62 58

78.784	323.4	0.42	2	8	+0.1	1	1.0	36
78.787	325.4	0.45	3	6	+0.1	1	0.8	36
78.789	323.2	0.46	1	6	-0.1	1	1.2	36
78.787	324.0	0.44	3n		1.0		36-Inch	

Eggen, 1965 (1): +4.3, -0.01.

434 STT 12 00 31.7 +54 31

77.746	185.5	0.51	2	7	0.0	4	0.0	26
77.760	183.4	0.52	2	6	+0.1	3	0.0	26
77.946	184.3	0.60	2	6	-0.1	3	0.2	26
77.995	186.0	0.58	2	5	0.0	3	0.2	26
81.867	185.6	0.57	2	5	0.0	3	0.3	26
81.882	186.1	0.46	2	6	-0.1	3	0.4	26
84.962	187.9	0.57	2	4	-0.1	3		26
85.997	188.3	0.46	2	5	-0.4	3	0.4	26
86.027	187.2	0.49	2	4	-0.2	3		26
86.830	185.2	0.50	2	6	-0.1	3		26
86.884	188.2	0.54	2	7	-0.2	3	0.0	26
86.994	187.0	0.55	2	7	-0.2	3	0.4	26
77.862	184.8	0.55	4n		0.1		26-Inch	
81.882	185.8	0.52	2n		0.4		26-Inch	
85.662	187.8	0.51	3n		0.4		26-Inch	
86.903	186.8	0.53	3n		0.2		26-Inch	

Heintz, 1963: +2.8,-0.03; +2.2, -0.05;
+2.8,-0.06; +1.3, -0.04.

450 A 111 00 32.1 -05 11

78.789	273.1	0.18	2	7	0.0	1	0.0	36
78.792	276.5	0.15	2	6	+0.1	1	0.0	60
78.800	271.2	0.18	2	5	+0.3	1	0.0	60
78.806	272.6	0.14	2	6	+0.4	1	0.2	60
84.773	171.0	0.16	2	6	-0.1	3		60
84.782	174.2	0.13	2	7	-0.7	3	0.0	60
84.787	168.4	0.14	2	6	+0.1	3	0.0	60
84.740	167.6	0.12	2	6	+0.1	3	0.0	60
78.789	273.1	0.18	1n		0.0		36-Inch	
78.800	273.4	0.16	3n		0.1		60-Inch	
84.783	170.3	0.14	4n		0.0		60-Inch	

Zulevic, 1971: +4.1, -0.01; +4.6, -0.03;
+11.0, -0.02.

453 HU 510 00 33.0 +51 51

76.955	132.3	1.69	2	5	-0.2	3	1.2	26
78.932	133.2	1.72	2	7	-0.5	3	1.0	26
79.011	135.0	1.58	2	4	0.0	3	0.6	26
78.299	133.5	1.66	3n		0.9		26-Inch	

461 A 911 00 33.4 +47 39

78.932	316.3	0.57	2	7	-0.5	3	0.4	26
79.011	316.4	0.50	2	4	-0.2	3	0.7	26
79.797	316.0	0.68	2	7	0.0	4	0.4	26
79.247	316.2	0.58	3n		0.5		26-Inch	

475 D 2 00 34.5 -04 33

78.792	261.1	0.47	2	5	+0.2	1	0.8	60
78.800	261.4	0.49	2	5	+0.4	1	0.4	60
78.796	261.2	0.48	2n		0.6		60-Inch	

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

479	A 433			00 34.9 -08 53						
84.784	31.4	4.13	2	4	0.0	3	2.4	60		
84.790	30.5	4.11	2	7	+0.1	3	3.0	60		
84.793	31.5	4.17	2	6	-0.3	3	2.0	60		
84.789	31.1	4.14	3n		2.5			60-Inch		
493	STT 15			00 35.8 +49 01						
77.746	316.6	0.18	1	7	+0.1	4	1.2	26		
77.946	308.0	0.22	1	6	0.0	3	1.5	26		
77.995	305.9	0.23	3	5	0.0	3	1.0	26		
77.896	310.2	0.21	3n		1.2			26-Inch		
501	A 913			00 36.4 +56 21						
81.787	89.3	0.71	2	7	-0.2	4	0.6	26		
81.826	91.4	0.71	2	6	-0.1	4	0.6	26		
81.842	91.4	0.62	2	6	-0.1	4	0.4	26		
81.818	90.7	0.68	3n		0.5			26-Inch		
506	A 807			00 36.4 +12 13						
78.932	243.4	0.95	2	6	0.0	3	1.5	26		
79.885	240.4	0.95	2	7	+0.1	4	1.8	26		
79.956	242.6	0.84	2	5	-0.1	3	1.4	26		
79.591	242.1	0.91	3n		1.6			26-Inch		
504	A 914			00 36.6 +56 08						
81.787	31.9	0.40	2	7	-0.1	4	0.0	26		
81.826	32.9	0.47	2	5	0.0	4	0.0	26		
81.842	32.5	0.41	2	6	0.0	4	0.2	26		
81.818	32.4	0.43	3n		0.1			26-Inch		
518	FOX 54			00 37.2 +08 06						
78.932	151.6	1.50	2	6	0.0	3	0.5	26		
79.885	154.0	1.59	2	7	+0.2	4	0.6	26		
79.956	152.7	1.50	2	6	0.0	3	0.2	26		
79.591	152.8	1.53	3n		0.4			26-Inch		
520	BU 395			00 37.2 -24 46						
78.781	308.2	0.39	2	7	+0.7	1	0.2	36		
78.784	308.8	0.36	2	7	+0.9	1	0.2	36		
78.782	308.5	0.38	2n		0.2			36-Inch		
van den Bos, 1937: -0.7, 0.00.										
515	BU 1097			00 37.3 +58 01						
81.787	258.4	0.51	2	6	0.0	4	0.2	26		
81.826	253.6	0.47	2	5	0.0	4	0.5	26		
81.842	253.7	0.43	2	6	0.0	4	0.4	26		
81.867	251.4	0.46	2	5	0.0	3	0.3	26		
81.830	254.3	0.47	4n		0.3			26-Inch		
543	JOH 1			00 38.7 -27 10						
84.787	93.5	0.09	2	7	+0.1	3		60		
84.790	93.4	0.09	2	7	+0.2			60		
84.788	93.4	0.09	2n					60-Inch		
540	MLB 109			00 39.1 +58 43						
86.824	61.9	1.75	2	6	-0.1	3	0.2	26		
86.830	66.9	1.77	2	6	-0.1	3	0.2	26		
86.884	61.1	1.52	2	7	-0.2	3	0.3	26		
86.846	63.3	1.68	3n		0.2			26-Inch		
545	HU 513			00 39.2 +51 28						
75.884	204.7	1.10	1	5	0.0	3	0.8	26		
77.760	206.3	1.02	2	5	+0.1	3	1.2	26		
77.946	204.6		2	6	0.0	3	0.6	26		
77.995	206.9	1.23	2	6	0.0	3	0.5	26		
77.396	205.6	1.12	3n		0.8			26-Inch		
559	BU 257			00 40.2 +47 15						
86.824	244.8	0.62	2	6	-0.1	3	0.3	26		
86.830	250.9	0.68	2	6	-0.1	3	0.5	26		
86.884	244.6	0.63	2	6	-0.2	3	0.5	26		
86.994	250.1	0.60	2	7	-0.2	3	0.6	26		
86.883	247.6	0.63	4n		0.5			26-Inch		
570	LEO 3			00 41.0 -07 41						
78.792	9.4	2.19	1	5	+0.2	1	0.5	60		
78.800	8.7	2.19	2	5	+0.3	1	0.4	60		
78.796	9.0	2.19	2n		0.4			60-Inch		
573	KU 6			00 41.3 +14 39						
86.884	227.0	2.00	2	7	-0.1	3	0.3	26		
86.994	226.5	2.05	2	7	-0.1	3		26		
87.000	226.8	1.95	2	5	-0.2	3	0.2	26		
86.959	226.8	2.00	3n		0.2			26-Inch		
581	B 10			00 41.7 -24 45						
78.781	177.1	0.28	2	7	+0.7	1		36		
78.784	182.1	0.13	2	7	+0.7	1		36		
78.787	184.3	0.19	2	6	+0.4	1		36		
78.789	175.3	0.19	2	8	+0.7	1	0.0	36		
78.785	179.7	0.20	4n		0.0			36-Inch		
586	I 1075			00 42.2 -22 59						
78.792	30.4	0.88	2	7	+0.4	1	0.2	60		
78.800	27.1	0.89	2	5	+0.7	1	0.2	60		
78.808	29.3	0.94	2	5	+0.3	1	0.4	60		
78.800	28.9	0.90	3n		0.3			60-Inch		

588 STT 18 00 42.3 +04 10

79.011	194.0	1.74	1	4	+0.1	3	1.0	26
79.846	195.8	1.79	1	5	-0.2	4	1.8	26
79.956	194.1	1.76	1	6	-0.3	3	1.6	26
80.057	195.0	1.87	1	4	+0.9	3	1.5	26
79.718	194.7	1.79	4n		1.5		26-Inch	

Baize, 1956: -5.4, +0.31. The orbit fails.

591 A 435 00 42.5 -05 43

78.792	239.8	0.41	2	5	+0.3	1	0.6	60
78.800	242.4	0.44	2	5	+0.4	1	0.5	60
78.808	240.2	0.45	2	4	+0.4	1	0.5	60
78.800	240.8	0.43	3n		0.5		60-Inch	

I 440 00 42.6 -65 36

78.803	294.5	0.22	2	4	+0.5	1	0.5	60
78.806	296.6	0.26	2	6	+0.5	1	0.4	60
78.808	295.4	0.27	2	3	+0.5	1	0.3	60
78.806	295.5	0.25	3n		0.4		60-Inch	

611 HU 1015 00 44.2 +65 01

81.842	311.8	0.57	2	6	0.0	4	0.4	26
81.897	313.2	0.66	2	7	-0.1	3	0.6	26
81.870	312.5	0.62	2n		0.5		26-Inch	

632 BU 493 00 45.8 +51 08

75.884	53.7	0.83	2	6	-0.1	3	0.2	26
76.917	50.6	0.79	2	5	0.0	3	0.1	26
77.746	52.6	0.75	2	7	0.0	4	0.2	26
76.849	52.3	0.79	3n		0.2		26-Inch	

635 A 2002 00 45.8 +06 54

78.932	125.7	0.19	2	7	0.0	3	0.0	26
79.956	136.3	0.23	2	6	0.0	3	0.0	26
81.015	127.6	0.25	2	8	0.0	3		26
79.968	129.9	0.22	3n		0.0		26-Inch	

Considerable retrograde motion.

RST 4155 00 46.1 -22 14

78.781	29.8	0.21	2	7	+0.7	1	0.0	36
78.784	28.6	0.19	2	8	+0.5	1	0.0	36
78.787	33.7	0.21	2	6	+0.4	1	0.0	36
78.789	23.0	0.21	2	7	+0.7	1	0.2	36
78.785	28.8	0.20	4n		0.0		36-Inch	

Heintz, 1984: +0.9, -0.03. An orbit by Costa, Docobo gives worse residuals.

673 BU 495 00 48.8 +18 42

78.031	45.0	0.26	2	5	0.0	3		26
78.836	44.4	0.17	2	6	+0.1	3	0.0	26
78.932	38.8	0.25	2	7	0.0	3	0.0	26
79.846	35.7	0.30	2	6	0.0	4	0.0	26
79.885	35.9	0.21	2	7	+0.1	4	0.3	26
79.956	31.0	0.29	2	6	0.0	3	0.0	26
81.787	32.1	0.24	2	6	-0.1	4	0.0	26
81.826	31.8	0.30	2	6	-0.1	4	0.3	26
81.897	34.3	0.30	2	6	0.0	3	0.2	26
86.824	18.2	0.30	2	7	-0.2	3	0.0	26
86.830	24.7	0.31	2	6	-0.1	3	0.0	26
86.884	22.1	0.28	2	7	-0.1	3		26
86.994	25.1	0.27	2	7	-0.1	3		26
78.600	42.7	0.23	3n		0.0		26-Inch	
79.896	34.2	0.27	3n		0.1		26-Inch	
81.837	34.3	0.28	3n		0.2		26-Inch	
86.883	22.5	0.29	4n		0.0		26-Inch	

Starikova, 1983: -1.8, -0.03; -6.6, -0.02; -2.0, -0.04; -5.2, -0.09.

675 J 223 00 48.8 +10 45

78.932	102.5	1.64	2	7	+0.1	3	0.0	26
79.846	102.3	1.84	2	7	+0.1	4	0.1	26
79.885	102.2	1.69	2	7	+0.1	4	0.1	26
79.554	102.3	1.72	3n		0.1		26-Inch	

676 J 222 00 49.3 +61 01

77.946	178.6		2	5	-0.1	3	0.3	26
81.842	179.8	2.82	2	6	0.0	4	0.3	26
81.897	179.2	2.96	2	6	-0.1	3	0.6	26
81.870	179.5	2.89	2n		0.4		26-Inch	

RST 19 00 49.4 -65 00

84.798	32.0	0.30	2	7	+0.3	4	0.2	36
84.801	29.0	0.27	2	6	-0.1	4	0.2	36
84.800	30.5	0.28	2n		0.2		36-Inch	

Decrease in angle and separation.

B 2067 00 49.7 -18 40

84.793	111.2	6.57	2	5	-0.4	3		60
84.793	111.2	6.57	1n				60-Inch	

This is the only measure.

701 A 1808 00 51.6 +22 38

76.966	112.4	0.10	2	7	+0.1	4		26
76.966	112.4	0.10	1n				26-Inch	

Rapid motion. Should receive speckle observations.

709 STF 67 00 52.1 +10 36

86.824	351.2	2.13	1	6	-0.2	3	0.3	26
86.830	351.0	2.20	1	6	0.0	3	0.5	26
86.884	351.7	2.36	1	7	-0.1	3	0.5	26
86.846	351.3	2.23	3n		0.4			26-Inch

713 HU 201 00 52.1 -13 13

78.781	100.8	0.63	2	7	+0.7	1	0.2	36
78.784	102.1	0.73	2	8	+0.3	1	0.5	36
78.787	101.8	0.74	2	6	-0.1	1	0.6	36
84.784	106.6	0.86	2	5	-0.1	3	0.3	60
84.787	102.4	0.82	2	8	0.0	3	0.2	60
84.790	101.5	0.86	2	7	0.0	3	0.3	60
84.793	100.6	0.79	2	6	-0.3	3	0.5	60
78.78	101.6	0.70	3n		0.4			36-Inch
84.78o	102.8	0.83	4n		0.3			60-Inch

Eggen, 1965 (1): +1.2, -0.08; +1.5, 0.00.

716 STN 3 00 52.2 -22 36

78.776	254.0	2.01	2	5	+0.4	1	0.5	36
78.787	251.3	2.03	2	5	+0.9	1	1.0	36
78.782	252.6	2.02	2n		0.8			36-Inch

B 644 00 53.3 -45 30

78.803	325.7	0.23	2	4	+0.4	1		60
78.806	323.4	0.26	2	6	+0.4	1	0.0	60
78.808	324.8	0.26	2	4	+0.4	1	0.2	60
78.806	324.6	0.25	3n		0.1			60-Inch

741 A 1258 00 54.4 +54 32

81.867	202.6	0.57	2	5	-0.2	3	0.6	26
85.997	206.8	0.44	2	5	-0.3	3	0.6	26
83.932	204.7	0.50	2n		0.6			26-Inch

746 STT 20 00 54.6 +19 12

79.890	221.6	0.44	2	4	-0.2	3	0.8	26
79.956	222.8	0.45	2	5	+0.1	3	0.7	26
80.057	221.3	0.47	2	5	+0.8	3	0.6	26
84.962	213.1	0.46	2	4	-0.3	3	0.8	26
85.997	211.0	0.39	2	5	-0.4	3	0.5	26
86.044	210.9	0.45	1	6	+0.2	3	1.0	26
79.968	221.9	0.45	3n		0.7			26-Inch
85.668	211.7	0.43	3n		0.8			26-Inch

Couteau, 1984: +2.4, -0.01; +1.0, -0.03.

755 STF 73 00 54.9 +23 38

78.031	249.6	0.59	2	5	-0.1	3	0.3	26
78.836	253.0	0.57	2	6	0.0	3	0.4	26
78.932	254.6	0.59	2	7	+0.1	3	0.6	26
79.011	253.4	0.54	2	4	-0.3	3		26
80.659	262.2	0.65	2	7	-0.4	4	0.5	26
80.890	260.0	0.63	2	6	+0.3	3	0.3	26
80.928	259.3	0.63	2	6	0.0	4	0.5	26
81.015	260.7	0.75	2	8	0.0	3	0.6	26
84.962	273.7	0.63	2	5	-0.3	3	0.5	26
85.997	276.5	0.63	2	5	-0.4	3	0.3	26
86.027	274.6	0.64	2	3	-0.3	3	0.0	26
86.044	275.7	0.57	2	6	+0.3	3	0.3	26
86.808	278.0	0.73	2	5	-0.4	3	0.2	26
86.824	278.3	0.72	2	7	-0.1	3	0.2	26
86.830	277.9	0.71	2	6	0.0	3	0.5	26
86.884	279.1	0.70	2	7	0.0	3	0.6	26
78.702	252.6	0.57	4n		0.4			26-Inch
80.873	260.6	0.66	4n		0.5			26-Inch
85.758	275.1	0.62	4n		0.3			26-Inch
86.836	278.3	0.71	4n		0.4			26-Inch

Muller, 1957: -1.6, -0.03; -2.0, +0.04;
-4.8, -0.06; -4.9, -0.01.

763 A 2209 00 55.3 +18 57

79.890	154.7	1.74	2	5	-0.1	3	0.1	26
80.890	153.6	1.72	2	6	+0.4	3	0.1	26
80.928	153.9	1.92	2	6	+0.1	4	0.2	26
80.569	154.1	1.79	3n		0.1			26-Inch

768 BU 500 00 55.4 +30 40

84.962	297.2	0.47	2	5	-0.2	3	0.0	26
85.997	295.8	0.43	2	5	-0.4	3	0.0	26
86.044	296.7	0.44	2	6	+0.3	3	0.2	26
85.668	296.6	0.45	3n		0.1			26-Inch

773 A 1259 00 56.1 +54 07

81.842	73.7	0.14	2	7	-0.1	4		26
81.842	73.7	0.14	1n					26-Inch

777 HU 1207 00 56.2 +33 53

78.932	7.6	0.30	2	6	+0.1	3	0.0	26
79.846	6.4	0.36	2	5	0.0	4	0.0	26
79.885	4.5	0.30	2	7	+0.1	4	0.2	26
79.554	6.2	0.32	3n		0.0			26-Inch

FIN 78 00 56.4 -59 46

84.795	273.4	3.68	2	4	+0.5	4	3.0	36
84.798	272.8	3.73	2	7	+0.3	4	3.0	36
84.796	273.1	3.70	2n		3.0			36-Inch

784 BU 1099 00 56.8 +60 22

77.760	287.5	0.20	2	5	-0.1	3	0.7	26
77.946	283.8	0.12	2	6	0.0	3	0.4	26
77.995	288.6	0.18	2	5	-0.2	3	1.0	26
81.787	305.9	0.23	2	7	-0.4	4		26
81.842	304.7	0.20	2	7	0.0	4	0.6	26
81.867	307.6	0.22	2	5	-0.1	3	0.6	26
77.900	286.6	0.18	3n		0.7		26-Inch	
81.832	306.1	0.21	3n		0.6		26-Inch	

Heintz, 1978: -7.6, -0.01; -3.7, -0.01.

794 ROE 106 00 57.1 +19 43

76.920	99.8	2.91	2	5	0.0	3	0.4	26
78.031	101.2	3.11	2	5	+0.2	3	0.2	26
78.836	100.4	2.86	2	5	+0.1	3	0.3	26
77.929	100.5	2.96	3n		0.3		26-Inch	

797 J 586 00 57.4 +18 29

79.890	46.5	1.56	2	5	0.0	3	0.0	26
81.787	47.5	1.77	2	6	0.0	4	0.2	26
81.826	45.2	1.68	2	6	-0.1	4	0.2	26
81.168	46.4	1.67	3n		0.1		26-Inch	

B 1419 00 57.5 -39 57

84.773	249.2	0.49	2	7	+0.3	3	0.2	60
84.784	250.0	0.41	2	5	+0.5	3	0.3	60
84.790	247.8	0.37	2	7	+0.9	3	0.2	60
84.782	249.0	0.42	3n		0.2		60-Inch	

795 HLD 4 00 57.6 +54 23

77.746	169.2	0.24	2	6	0.0	4	0.6	26
77.760	171.8	0.24	2	5	0.0	3	0.4	26
77.946	176.4	0.25	2	6	0.0	3	0.2	26
77.995	175.8	0.23	2	4	0.0	3		26
77.862	173.3	0.24	4n		0.4		26-Inch	

Closed in and moving fairly rapidly.

802 WNC 1 00 58.0 +09 16

86.824	129.6	5.28	2	7	0.0	3	0.2	26
86.830	131.1	5.33	2	6	0.0	3	0.2	26
86.884	130.8	5.35	2	7	0.0	3	0.2	26
86.846	130.5	5.32	3n		0.2		26-Inch	

805 BU 302 00 58.3 +21 24

80.659	161.2	0.36	2	7	-0.1	4	1.5	26
80.928	161.2	0.39	2	5	0.0	4	1.2	26
81.015	161.6	0.42	1	8	+0.1	3	1.6	26
86.824	165.8	0.44	2	6	-0.1	3	1.0	26
86.884	174.3	0.52	2	6	0.0	3	1.0	26
86.994	168.2	0.40	2	7	-0.2	3	1.4	26
80.867	161.3	0.39	3n		1.4		26-Inch	
86.901	169.4	0.45	3n		1.1		26-Inch	

815 A 438 00 58.7 -07 45

78.776	32.8	0.98	2	4	+0.2	1	0.3	36
78.784	30.1	1.20	2	7	+0.3	1	0.4	36
78.787	32.3	1.28	2	6	-0.1	1	0.2	36
78.782	31.7	1.15	3n		0.3		36-Inch	

819 A 1902 00 59.3 -00 41

78.792	171.2	0.21	1	7	+0.3	1	0.3	60
78.800	169.4	0.21	1	5	+1.2	1	0.0	60
78.806	168.0	0.22	1	6	0.0	1	0.3	60
80.659	172.5	0.25	1	6	-0.1	3	0.4	26
81.015	170.3	0.29	1	8	+0.1	3	0.4	26
81.787	172.8	0.25	2	5	0.0	4		26
84.787	173.6	0.26	2	8	0.0	3	0.3	60
84.790	177.5	0.23	1	7	0.0	3	0.3	60
84.793	177.2	0.25	1	5	-0.3	3	0.3	60
78.800	169.5	0.21	3n		0.2		60-Inch	
81.154	171.9	0.26	3n		0.5		26-Inch	
84.790	176.1	0.25	3n		0.3		60-Inch	

Miranian, 1973: -4.4, -0.05; -6.6, -0.01;
-8.7, -0.04.
Deviations increasing. The later orbit by Costa and Docobo does not agree with its ephemeris.

822 A 1903 00 59.6 -01 12

78.792	311.8	0.27	2	7	+0.4	1	0.3	60
78.800	307.0	0.30	2	5	+0.3	1	0.3	60
78.806	312.0	0.28	2	6	+0.1	1	0.3	60
84.787	319.7	0.29	2	7	+0.1	3	0.2	60
84.790	322.2	0.26	2	7	+0.1	3	0.2	60
84.793	321.3	0.28	2	5	-0.2	3		60
78.800	310.3	0.28	3n		0.3		60-Inch	
84.790	321.1	0.28	3n		0.2		60-Inch	

Baize, 1958: +0.9, -0.10; -0.2, -0.13.
Costa, Docobo, 1983: +3.9, -0.02;
-2.8, -0.04.

829 MAD 1 01 00.6 +47 19

85.997	11.5	0.74	2	5	-0.4	3	0.7	26
86.824	12.2	0.81	2	7	0.0	3	1.0	26
86.994	13.3	0.95	4	6	-0.1	3	1.5	26
86.605	12.3	0.83	3n		1.1		26-Inch	

I 49 01 00.7 -52 35

78.770	35.9	0.45	2	5	+0.1	1	0.3	36
78.773	33.9	0.38	2	6	+0.2	1	0.3	36
78.784	35.4	0.36	1	8	+0.5	1	0.2	36
84.773	31.2	0.40	2	7	+0.3	3	0.3	60
84.784	33.1	0.35	2	5	+0.5	3	0.2	60
84.790	31.0	0.30	2	6	+1.0	3	0.2	60
78.776	35.1	0.40	3n		0.3		36-Inch	
84.782	31.8	0.35	3n		0.2		60-Inch	

862 STT 21 01 03.0 +47 22

81.867	177.6	1.04	2	5	-0.1	3	1.0	26
84.962	175.2	0.91	2	5	-0.2	3	0.8	26
85.967	176.6	1.21	2	5	0.0	3	1.2	26
85.997	179.4	1.02	2	6	-0.3	3	1.2	26
84.698	177.2	1.04	4n		1.0			26-Inch

Heintz, 1966: +2.0, +0.12.

874 A 2004 01 03.8 +06 46

80.659	248.6	1.65	4	7	-0.1	4	3.2	26
81.787	245.4	1.74	2	4	0.0	4	3.0	26
81.826	246.7	1.63	2	5	-0.1	4	3.2	26
81.424	246.9	1.67	3n		3.1			26-Inch

873 HO 213 01 03.9 +35 28

81.826	91.0	0.25	2	6	0.0	4	0.3	26
81.842	95.4	0.28	2	6	0.0	4	0.0	26
81.897	92.9	0.25	2	6	-0.1	3	0.2	26
81.855	93.1	0.26	3n		0.2			26-Inch

Baize, 1981: -4.1, 0.00.

HJ 3415 01 03.9 -40 39

78.803	139.6	0.96	2	3	+0.4	1	1.2	60
78.806	140.2	1.01	2	5	+0.4	1	1.5	60
78.808	142.0	0.98	2	4	+0.3	1	1.0	60
78.806	140.6	0.98	3n		1.2			60-Inch

879 DOO 26 01 04.4 +01 47

81.826	184.3	2.17	1	6	0.0	4	0.4	26
81.842	182.5	1.99	1	6	0.0	4	0.4	26
81.897	181.9	1.82	1	7	-0.1	3	0.7	26
81.855	182.9	1.99	3n		0.5			26-Inch

BRT 120 01 04.8 +25 35

86.830	322.8	4.26	2	6	0.0	3	0.4	26
87.000	321.3	3.88	2	5	0.0	3	0.1	26
86.915	322.0	4.07	2n		0.2			26-Inch

883 A 1515 01 05.0 +36 49

76.966	281.7	0.20	3	7	0.0	4	0.3	26
77.746	280.5	0.19	2	6	0.0	4	0.2	26
77.760	283.1	0.24	2	5	+0.1	3	0.0	26
77.491	281.8	0.21	3n		0.2			26-Inch

Costa, Docobo, 1984: +16.6, +0.02.

896 AG 14 01 05.6 +21 07

78.932	15.9	0.39	2	6	+0.1	3	0.8	26
79.846	14.4	0.46	2	6	0.0	4	0.8	26
79.885	11.8	0.35	2	7	0.0	4	0.4	26
79.554	14.0	0.40	3n		0.7			26-Inch

Heintz, 1981: -3.4, +0.03.

I 708 01 05.6 -61 22

78.770	85.0	1.38	2	4	+0.1	1	1.6	36
78.773	86.5	1.21	2	5	+0.2	1	0.8	36
78.784	87.4	1.11	2	8	+0.5	1	1.0	36
78.776	86.3	1.23	3n		1.1			36-Inch

B 1028 01 06.5 -20 03

78.781	138.1	0.24	2	6	+0.6	1	0.3	36
78.784	137.3	0.21	2	8	+0.9	1	0.0	36
78.789	134.7	0.22	2	7	+0.4	1	0.2	36
78.785	136.7	0.22	3n		0.2			36-Inch

931 A 2101 01 08.1 +12 04

81.897	266.6	0.56	2	6	-0.1	3	0.4	26
84.962	254.1	0.49	2	4	-0.1	3		26
83.430	260.4	0.52	2n		0.4			26-Inch

HU 1342 01 09.3 -56 36

84.795	174.6	0.21	2	5	+0.3	4	0.2	36
84.798	176.6	0.17	2	7	+0.3	4		36
84.801	177.6	0.18	1	6	-0.2	4		36
84.798	176.3	0.19	3n		0.2			36-Inch

Heintz, 1984: -5.4, -0.05.

940 STT 515 01 09.5 +47 15

79.846	141.1	0.44	2	6	0.0	4	0.5	26
79.885	141.9	0.45	2	7	0.0	4	0.7	26
79.890	139.9	0.49	2	5	0.0	3	0.6	26
84.962	139.2	0.49	2	5	-0.2	3	0.8	26
85.997	136.3	0.43	2	6	-0.2	3	0.4	26
86.824	134.4	0.53	2	7	-0.1	3	0.4	26
86.830	135.4	0.52	2	5	0.0	3	0.7	26
86.884	134.2	0.46	2	7	0.0	3	0.8	26
86.994	133.2	0.49	2	6	-0.1	3	0.6	26
79.874	141.0	0.46	3n		0.6			26-Inch
85.480	137.8	0.46	2n		0.6			26-Inch
86.883	134.3	0.50	4n		0.6			26-Inch

Baize, 1958: +0.9, +0.01; +1.5, 0.00;
-1.1, +0.04.

974 A 655 01 11.2 +41 15

81.826	299.4	0.33	2	5	0.0	4	0.6	26
81.842	304.8	0.34	2	7	-0.1	4	0.6	26
81.867	306.1	0.38	2	5	-0.1	3	0.3	26
81.845	303.4	0.35	3n	0.5			26-Inch	

Costa, Morales, 1978: -4.9, +0.04.
Heintz, 1984: -8.4, +0.04.

CPO 26 01 12.3 -49 17

78.770	44.9	2.08	2	5	+0.2	1	0.4	36
78.773	45.3	1.95	2	5	+0.2	1	0.4	36
78.776	45.7	2.01	2	4	+0.3	1	0.6	36
78.773	45.3	2.01	3n	0.5			36-Inch	

JSP 21 01 13.4 -60 14

84.773	185.9	0.82	1	7	+0.2	3	1.5	60
84.784	185.0	0.89	4	4	+0.4	3	1.2	60
84.790	188.0	0.70	2	6	+0.8	3	1.4	60
84.782	186.3	0.80	3n	1.4			60-Inch	

Slow direct motion.

996 BU 1029 BC 01 13.7 +07 35

81.897	78.1	1.72	2	7	0.0	3	3.0	26
85.997	77.2	1.76	2	6	-0.3	3	3.5	26
86.044	78.9	1.61	2	5	+0.2	3	3.5	26
84.646	78.1	1.70	3n	3.3			26-Inch	

999 BU 1100 01 14.7 +60 57

79.846	30.0	0.49	2	6	0.0	4	0.0	26
79.885	27.8	0.44	2	7	0.0	4	0.0	26
79.890	30.9	0.43	2	4	0.0	3	0.0	26
79.874	29.6	0.45	3n	0.0			26-Inch	

Muller, 1954: +1.6, -0.04.
Zulevic, 1972: +0.3, -0.13.
Baize, 1986: +1.2, -0.05.

FIN 79 01 15.0 -60 07

78.770	228.1	2.38	2	4	+0.1	1	3.2	36
78.784	229.1	2.10	2	8	+0.5	1	3.4	36
78.789	223.9	2.33	1	6	+0.5	1	2.5	36
78.781	227.0	2.27	3n	3.0			36-Inch	

1011 A 1519 01 15.7 +37 11

81.687	72.3	1.64	2	5	-0.2	3	1.2	26
86.824	73.2	1.54	2	7	0.0	3	1.4	26
86.884	76.5	1.75	2	7	0.0	3	1.5	26
85.132	74.0	1.64	3n	1.4			26-Inch	

I 27 CD 01 15.7 -68 52

78.773	171.1	0.82	2	5	+0.3	1	0.4	36
78.789	170.8	0.98	2	6	+0.6	1	0.4	36
78.781	171.0	0.90	2n	0.4			36-Inch	

Heintz, 1978: +1.6 -0.22.

1016 A 2102 01 15.8 +09 47

78.932	153.1	0.50	1	6	0.0	3	2.5	26
81.842	141.2	0.51	2	8	+0.1	4	2.5	26
81.897	145.9	0.44	3	6	0.0	3	2.8	26
80.890	146.7	0.48	3n	2.6			26-Inch	

1039 HU 520 01 17.8 +49 46

76.966	342.9	0.22	1	7	0.0	4	0.2	26
77.746	346.2	0.26	2	6	-0.1	4	0.2	26
77.760	344.4	0.28	2	6	-0.1	3	0.2	26
77.491	344.5	0.25	3n	0.2			26-Inch	

1040 STF 102 01 17.8 +49 01

86.830	278.1	0.40	2	6	0.0	3	0.8	26
86.884	276.6	0.42	2	6	0.0	3	0.5	26
86.994	277.0	0.43	2	6	-0.2	3	0.8	26
86.903	277.2	0.42	3n	0.7			26-Inch	

1045 A 937 01 18.1 +47 07

77.746	41.3	0.26	2	5	0.0	4	0.0	26
77.760	42.0	0.24	2	5	0.0	3	0.3	26
77.946	44.0	0.25	2	6	+0.2	3	0.0	26
77.817	42.4	0.25	3n	0.1			26-Inch	

1066 SEE 11 01 18.8 -26 30

78.776	306.0	1.63	2	5	0.0	1	0.3	36
78.787	304.9	1.66	2	4	+0.5	1	0.4	36
78.789	305.4	1.65	2	8	+0.8	1	0.3	36
78.784	305.4	1.65	3n	0.3			36-Inch	

1065 HU 521 01 19.4 +48 58

81.867	106.3	0.23	2	5	-0.2	3	0.0	26
81.897	105.4	0.26	2	6	0.0	3	0.0	26
81.882	105.8	0.24	2n	0.0			26-Inch	

1077 A 313 01 19.7 -05 19

78.781	30.9	0.20	2	7	+0.5	1	0.0	36
78.784	28.9	0.27	2	7	+0.7	1	0.2	36
78.789	36.2	0.24	2	7	+0.3	1	0.2	36
78.785	32.0	0.24	3n	0.1			36-Inch	

Heintz, 1975: -1.3, +0.02.

		HJ 3430			01 20.4	-57 21			
78.770	229.3	3.15	2	4	+0.1	1	2.4	36	
78.773	224.5	3.07	1	6	+0.3	1	1.6	36	
78.776	228.4	3.02	2	5	+0.3	1	1.5	36	
78.773	227.4	3.08	3n		1.8			36-Inch	
1097		BU 4			01 21.3	+11 32			
78.031	113.8	0.51	2	4	-0.1	3	0.2	26	
78.836	118.1	0.36	2	7	+0.1	3	0.8	26	
78.932	112.3	0.35	2	6	+0.1	3	0.8	26	
81.787	116.4	0.49	2	5	-0.2	4	0.7	26	
81.842	115.4	0.49	2	6	0.0	4	0.5	26	
81.867	116.7	0.43	2	4	-0.1	3	0.8	26	
78.600	114.7	0.36	3n		0.6			26-Inch	
81.832	116.2	0.47	3n		0.7			26-Inch	
Muller, 1954: -0.6, -0.05; +3.7, +0.06.									
1102		SEE 13			01 21.8	-24 08			
78.800	171.8	1.07	2	5	+0.1	1	0.3	60	
78.808	172.7	1.08	2	3	+0.9	1	0.5	60	
78.804	172.2	1.08	2n		0.4			60-Inch	
Zimmermann, 1983: -1.6, +0.17.									
		B 1424			01 21.9	-44 40			
84.773	42.1	0.27	2	6	+0.2	3		60	
84.787	47.8	0.26	2	6	+0.4	3	0.3	60	
84.790	45.6	0.25	2	7	+0.8	3	0.1	60	
84.783	45.2	0.26	3n		0.2			60-Inch	
Decrease in angle and separation.									
1105		STF 115			01 23.3	+58 08			
79.885	137.3	0.26	2	6	+0.1	4	0.0	26	
80.890	132.3	0.26	2	6	-0.1	3	0.2	26	
80.928	140.9	0.25	2	6	-0.1	4	0.3	26	
81.015	131.1	0.26	2	8	0.0	3		26	
80.680	135.4	0.26	4n		0.1			26-Inch	
Closed in with little angular change. High inclination and eccentricity indicated.									
1126		A 939			01 25.1	+45 36			
76.966	106.0	0.14	1	6	0.0	4	0.0	26	
81.897	112.4	0.15	2	7	0.0	4		26	
79.432	109.2	0.14	2n		0.0			26-Inch	
Baize, 1976: -11.4, -0.01. Heintz, 1985: -14.4, 0.00.									
		RST 33			01 25.9	-47 54			
78.773	326.2	0.66	2	5	+0.3	1	1.2	36	
78.766	318.6	0.67	2	3	+0.4	1	1.0	36	
78.787	319.9	0.91	2	4	+0.5	1	1.3	36	
78.789	320.7	1.05	2	7	+0.5	1	1.2	36	
84.773	310.0	1.13	2	7	+0.2	3	1.7	60	
84.784	313.2	1.05	2	3	+0.4	3	0.8	60	
84.787	314.6	1.08	2	7	+0.4	3	1.5	60	
78.781	321.4	0.82	4n		1.2			36-Inch	
84.781	312.6	1.09	3n		1.3			60-Inch	
Newburg, 1966: +14.6, -0.14; +9.0, +0.07.									
1135		ES 1713			01 26.1	+58 32			
77.760	144.8	1.74	2	5	+0.1	3	0.0	26	
77.946	145.3		2	6	+0.1	2	0.0	26	
78.836	143.8	1.60	2	7	-0.1	3	0.2	26	
78.932	145.3	1.74	2	7	0.0	3	0.1	26	
78.509	144.6	1.69	3n		0.1			26-Inch	
		DON 17			01 26.1	-67 50			
84.773	280.7	0.76	2	5	+0.4	3	0.8	60	
84.787	280.8	0.87	2	6	+0.4	3	0.8	60	
84.780	280.8	0.82	2n		0.8			60-Inch	
Heintz, 1966: -6.6, +0.13.									
1159		I 444			01 27.4	-25 20			
78.800	109.8	0.53	2	5	+0.1	1	0.4	60	
78.800	109.8	0.53	1n		0.4			60-Inch	
1158		BU 1164			01 27.7	+05 21			
79.885	156.8	0.44	4	6	0.0	4	0.4	26	
81.015	153.8	0.59	2	7	0.0	3	0.5	26	
81.787	155.6	0.50	2	5	-0.2	4	0.4	26	
81.842	159.2	0.41	2	7	0.0	4	0.4	26	
86.044	155.8	0.36	1	6	0.0	3	0.3	26	
86.058	156.6	0.39	1	7	+0.1	3	0.3	26	
86.063	152.0	0.38	2	7	+0.3	3	0.3	26	
81.132	156.4	0.48	4n		0.4			26-Inch	
86.055	154.8	0.38	3n		0.3			26-Inch	
van den Bos, 1950: +1.1, +0.04; +2.3, -0.01. Starikova, 1985: -1.9, -0.01. -1.3, -0.07.									
1156		A 940			01 28.0	+58 21			
77.760	85.3	0.48	2	5	0.0	3	0.1	26	
77.946	86.6		2	5	+0.1	3	0.0	26	
78.836	86.6	0.47	2	7	0.0	3	0.3	26	
78.932	83.4	0.42	2	6	+0.1	3	0.0	26	
78.509	85.1	0.46	3n		0.1			26-Inch	

1178 A 2317 01 29.2 +03 47

86.824	54.2	1.10	2	6	0.0	3	0.5	26
86.830	51.9	1.06	2	5	-0.1	3	0.8	26
86.884	51.7	1.17	2	6	0.0	3	0.3	26
86.846	52.6	1.11	3n		0.5		26-Inch	

1183 A 1910 01 29.7 +22 50

79.885	140.7	0.15	2	7	0.0	4		26
81.015	126.4	0.22	2	7	0.0	3		26
81.842	124.6	0.15	2	7	+0.1	4		26
80.914	130.6	0.17	3n				26-Inch	

Baize, 1987: +2.7, +0.02.
Tokovinen, 1986: +4.4, +0.06.
Speckle observations confirm my angle, but give a separation of about 0.12" at this epoch.

HU 1344 01 31.1 -46 23

84.795	99.5	1.43	2	5	+0.3	4	1.0	36
84.798	102.6	1.40	2	7	0.0	4	0.8	36
84.801	100.0	1.51	2	8	+0.2	4	0.8	36
84.798	100.7	1.45	3n		0.9		36-Inch	

1224 A 1912 01 34.1 +36 12

76.966	348.2	0.21	1	7	0.0	4	0.3	26
79.885	357.8	0.21	2	6	0.0	4	0.2	26
81.015	353.2	0.27	2	7	+0.1	3	0.4	26
79.289	353.1	0.23	3n		0.3		26-Inch	

There is a large scatter in the measures by different observers.

1250 BU 507 01 36.0 +26 46

81.867	148.7	2.22	2	5	-0.2	3	1.8	26
81.897	145.5	2.27	2	6	-0.1	4	1.5	26
86.023	146.0	2.03	2	6	0.0	3	1.8	26
83.262	146.7	2.17	3n		1.7		26-Inch	

1254 STF 138 01 36.0 +07 39

86.824	55.1	1.78	2	6	0.0	3	0.0	26
86.830	57.4	1.53	2	5	-0.1	3		26
86.884	54.7	1.70	2	6	0.0	3	0.0	26
86.846	55.7	1.67	3n		0.0		26-Inch	

1266 A 1265 CD 01 37.5 +55 12

77.760	176.3	0.51	2	5	0.0	3	0.3	26
77.946	179.1		1	5	+0.1	3	0.3	26
78.836	179.4	0.36	2	7	0.0	3	0.3	26
78.932	183.3	0.55	2	8	0.0	3	0.3	26
78.509	179.7	0.47	3n		0.3		26-Inch	

No measures for 30 years. A slight angular increase.

1282 J 587 01 38.3 +22 32

81.867	31.1	1.88	2	5	-0.1	3	0.1	26
81.897	29.2	1.79	2	6	0.0	4	0.1	26
81.882	30.2	1.84	2n		0.1		26-Inch	

LDS 838 01 38.8 -17 58

78.792	86.9	1.97	2	7	-0.1	1	0.3	60
78.800	83.5	1.92	2	5	0.0	1	0.4	60
78.806	83.6	1.81	2	6	-0.1	1	0.4	60
78.799	84.7	1.90	3n		0.4		60-Inch	

Other designations: L 726-8, UV Ceti.
Geyer et. al. 1988: +2.0, +0.24. The new orbit satisfies the extensive 1.55m plate material better.

1297 A 1915 01 39.1 -00 49

81.842	263.8	0.56	2	6	+0.1	4	0.6	26
81.897	264.9	0.72	2	6	+0.1	4	0.8	26
86.058	265.4	0.78	2	6	+0.2	3	1.3	26
83.266	264.7	0.69	3n		0.9		26-Inch	

1294 BU 508 01 39.2 +26 56

81.842	54.0	0.53	2	6	0.0	4	0.4	26
81.867	60.0	0.50	2	4	0.0	3	0.4	26
81.897	53.7	0.59	2	6	0.0	4	1.0	26
81.869	55.9	0.54	3n		0.6		26-Inch	

1300 BU 5 01 39.3 +16 37

79.846	291.8	0.70	2	5	-0.1	4	2.0	26
79.885	292.3	0.70	2	6	+0.1	4	2.0	26
80.057	294.2	0.65	2	4	+0.2	3	1.8	26
79.929	292.8	0.68	3n		1.9		26-Inch	

1305 STF 141 01 40.1 +38 58

76.920	303.0	1.67	2	5	-0.1	3	0.5	26
76.952	304.1	1.66	2	6	-0.1	3	0.2	26
76.966	300.6	1.58	2	7	-0.1	4	0.4	26
77.746	303.6	1.57	2	6	-0.3	4	0.5	26
77.146	302.8	1.62	4n		0.4		26-Inch	

SMW 1 01 42.1 -18 08

78.792	22.0	0.13	2	6	-0.1	1		60
78.800	22.2	0.18	2	4	0.0	1		60
78.806	23.1	0.26	1	4	0.0	1	0.3	60
78.799	22.4	0.19	3n		0.3		60-Inch	

1345 A 1 01 42.4 -06 46

81.842	240.7	0.73	2	6	+0.1	4	0.2	26
81.897	241.3	0.71	2	6	+0.1	4	0.4	26
86.023	245.7	0.72	2	6	+0.1	3	0.2	26
86.058	243.9	0.82	2	6	0.0	3	0.2	26
83.955	242.9	0.74	4n		0.2		26-Inch	

Erceg, 1981: +4.2, +0.03.

1347 HU 10 01 42.5 -12 20

78.773	323.8	0.70	1	6	+0.9	1	0.5	36
78.781	315.1	0.70	2	6	-0.3	1	0.8	36
78.784	318.1	0.70	2	7	+0.4	1	0.8	36
78.779	319.0	0.70	3n		0.7		36-Inch	

SLR 3 01 43.1 -54 52

78.773	208.4	0.52	1	4	+0.3	1		36
78.778	208.7	0.53	1	3	+0.3	1	0.3	36
78.787	207.1	0.53	1	4	+0.4	1	0.2	36
78.789	208.9	0.58	2	7	+0.3	1	0.4	36
78.782	207.8	0.54	4n		0.3		36-Inch	

1359 BU 870 01 44.3 +57 32

79.846	9.2	1.10	1	4	-0.3	4	1.8	26
79.885	6.1	1.03	2	6	+0.1	4	1.5	26
79.890	14.6	1.00	2	4	-0.4	3	2.0	26
79.874	10.0	1.04	3n		1.8		26-Inch	

Popovic, 1972: +6.3, -0.03.

1369 STF 155 01 44.3 +09 29

86.824	325.5	4.91	2	6	0.0	3	0.0	26
86.830	324.5	5.02	2	5	-0.2	3	0.2	26
86.884	325.4	4.97	2	6	0.0	3	0.2	26
86.846	325.1	4.97	3n		0.1		26-Inch	

1371 BU 453 01 45.0 +57 07

78.836	68.5	0.39	2	7	0.0	3	0.3	26
78.932	64.5	0.46	2	7	0.0	3	0.8	26
78.884	66.5	0.42	2n		0.6		26-Inch	

Heintz, 1973: -1.1, -0.04.
Zulevic, 1982: +6.9, -0.02.
Soulie, 1984: +6.1, -0.10.

1380 STF 148 01 46.1 +63 49

77.760	157.6	0.54	2	5	-0.2	3	0.3	26
77.946	158.3		2	5	0.0	3	0.2	26
78.836	158.4	0.47	1	5	0.0	3	0.4	26
78.932	160.0	0.37	2	6	+0.1	3	0.6	26
78.509	158.7	0.46	3n		0.4		26-Inch	

Closing in.

B 656 01 46.1 -62 48

84.795	248.4	1.58	2	5	+0.2	4	0.3	36
84.798	247.7	1.48	2	7	-0.1	4	0.5	36
84.801	248.0	1.49	2	7	+0.1	4	0.2	36
84.798	248.0	1.52	3n		0.3		36-Inch	

1395 HU 532 01 46.6 +50 24

76.728	148.2	0.20	2	7	-0.1	4	0.5	26
76.966	152.2	0.19	2	6	+0.1	4	0.4	26
77.946	147.0	0.20	2	5	+0.1	3	0.7	26
78.836	155.0	0.15	2	5	+0.1	3		26
77.619	148.1	0.18	4n		0.5		26-Inch	

I 52 01 47.7 -43 58

84.773	49.8	0.25	2	6	+0.1	3	0.2	60
84.784	50.3	0.25	2	3	+0.3	3		60
84.787	49.6	0.22	2	6	+0.2	3		60
84.781	49.9	0.24	3n		0.2		60-Inch	

After its close approach a decade ago, the pair is now opening up.

1454 BU 1168 01 49.7 -10 22

78.781	218.7	0.17	2	6	+0.4	1		36
78.784	218.7	0.20	2	7	+0.5	1		36
78.789	222.7	0.15	2	8	+0.4	1	0.0	36
78.785	220.0	0.17	3n		0.0		36-Inch	

1451 HU 422 01 49.7 -14 14

78.781	88.5	0.16	2	6	+0.3	1	0.0	36
78.784	90.9	0.15	2	7	+0.4	1	0.0	36
78.787	90.4	0.24	2	5	+0.5	1	0.0	36
78.784	89.9	0.18	3n		0.0		36-Inch	

Baize, 1981: +0.9, +0.02.

1483 HU 12 01 51.7 -09 55

78.800	335.1	1.31	1	3	0.0	1	2.8	60
78.800	335.1	1.31	1n		2.8		60-Inch	

1482 HU 1213 01 52.0 +13 26

81.842	105.2	0.21	2	6	0.0	4	0.0	26
86.044	101.0	0.19	2	5	-0.2	3		26
86.058	97.3	0.18	2	6	0.0	3	0.0	26
86.063	96.8	0.17	2	7	0.0	3	0.0	26
81.842	105.2	0.21	1n		0.0		26-Inch	
86.055	98.4	0.18	3n		0.0		26-Inch	

1466	STF 168			01 52.1 +66 45							
	76.728	224.2	1.97	2	7	0.0	4	2.0	26		
	76.966	223.1	1.89	2	7	0.0	4	1.6	26		
	77.760	224.4	1.83	2	5	-0.1	3	2.5	26		
	77.151	223.9	1.90	3n	2.0				26-Inch		
	RST 4188			01 52.7 -04 47							
	78.781	10.6	0.31	1	6	+0.4	1	0.0	36		
	78.784	10.5	0.39	2	7	+0.5	1	0.1	36		
	78.787	8.5	0.42	1	4	+0.5	1	0.2	36		
	78.784	9.9	0.37	3n	0.1				36-Inch		
1503	BU 260			01 53.2 +15 26							
	86.824	257.3	1.16	2	6	-0.1	3	0.2	26		
	86.830	256.2	1.35	2	5	-0.3	3	0.5	26		
	86.884	256.0	1.16	2	5	0.0	3	0.3	26		
	86.846	256.5	1.22	3n	0.3				26-Inch		
	JSP 31			01 54.1 -77 30							
	78.806	12.6	0.14	1	4	+0.4	1		60		
	78.806	12.6	0.14	1n					60-Inch		
1509	A 953			01 54.7 +59 56							
	77.760	68.1	0.79	2	5	-0.1	3	0.0	26		
	78.836	69.8	0.71	2	5	0.0	3	0.2	26		
	78.932	69.0	0.76	2	7	0.0	3	0.2	26		
	78.509	69.0	0.75	3n	0.1				26-Inch		
1522	STF 183			01 55.1 +28 47							
	79.846	180.0	0.28	2	6	-0.2	4	0.3	26		
	80.887	183.6	0.26	2	5	-0.3	3	0.4	26		
	81.015	176.8	0.26	2	8	0.0	4	0.2	26		
	86.824	168.1	0.31	2	7	0.0	3	0.6	26		
	86.884	173.0	0.27	2	5	0.0	3	0.4	26		
	87.000	167.5	0.27	2	5	-0.1	3		26		
	80.583	180.1	0.27	3n	0.3				26-Inch		
	86.903	169.5	0.28	3n	0.5				26-Inch		
Couteau, 1973: +2.6, 0.00; +1.9, -0.03.											
1530	A 2407			01 55.4 +02 57							
	81.842	239.1	0.45	2	5	0.0	4	1.5	26		
	86.023	252.4	0.42	2	6	0.0	3	0.8	26		
	86.058	256.0	0.44	2	6	0.0	3	1.5	26		
	86.063	254.0	0.46	2	7	0.0	3	2.0	26		
	84.996	250.4	0.44	4n	1.4				26-Inch		
Baize, 1983: -1.5, +0.16.											
Costa, Docobo, 1983: +0.7, +0.08.											
	I 452			01 55.7 -43 51							
	84.773	294.6	0.39	2	6	+0.1	3	0.4	60		
	84.787	295.6	0.34	2	6	+0.1	3	0.2	60		
	84.790	292.2	0.33	2	7	+0.3	3	0.2	60		
	84.783	294.1	0.35	3n	0.3				60-Inch		
1538	STF 186			01 55.9 +01 50							
	79.846	56.2	1.34	2	6	-0.1	4	0.0	26		
	80.887	58.7	1.21	2	4	-0.2	3	0.2	26		
	81.015	59.8	1.34	2	7	0.0	4	0.1	26		
	80.583	58.2	1.30	3n	0.1				26-Inch		
Mourao, 1976: +3.6, -0.08.											
1549	A 818			01 57.3 +48 12							
	76.728	206.8	0.26	2	6	+0.1	4	0.8	26		
	78.836	206.6	0.21	2	5	+0.1	3	0.2	26		
	78.932	200.5	0.27	2	7	0.0	3	0.7	26		
	78.165	204.6	0.25	3n	0.6				26-Inch		
1567	BU 7			01 58.0 -02 04							
	80.887	14.1	3.19	1	4	-0.2	3	4.5	26		
	81.015	13.6	2.94	1	7	+0.1	4	4.5	26		
	81.842	15.3	3.04	1	7	+0.1	4	3.4	26		
	81.248	14.3	3.06	3n	4.1				26-Inch		
	RST 45			01 59.8 -50 34							
	84.795	264.9	0.26	2	6	0.0	4	0.4	36		
	84.798	263.4	0.26	2	7	-0.2	4	0.3	36		
	84.801	265.0	0.29	2	7	0.0	4	0.5	36		
	84.798	264.4	0.27	3n	0.4				36-Inch		
	I 265			02 00.9 -43 50							
	78.799	141.6	0.10	2	7	+0.3	1	0.3	60		
	78.806	147.4	0.13	3	5	+0.2	1		60		
	84.773	192.6	0.18	2	6	+0.1	3	1.0	60		
	84.787	188.2	0.16	2	6	+0.2	3	0.3	60		
	84.790	191.3	0.17	2	7	+0.3	3	1.0	60		
	78.799	144.5	0.12	2n	0.3				60-Inch		
	84.783	190.7	0.17	3n	0.8				60-Inch		
A quadrant has been described in the last decade.											
1598	BU 513			02 01.9 +70 54							
	78.932	187.7	0.61	1	6	0.0	3	2.2	26		
	79.885	198.1	0.82	4	6	0.0	4	2.4	26		
	79.408	192.9	0.72	2n	2.3				26-Inch		
Heintz, 1969: -6.7, +0.04.											

1615 STF 202 02 02.1 +02 46

79.011	287.0	1.98	2	4	0.0	3	1.0	26
79.846	287.6	1.93	2	5	-0.1	3	0.8	26
80.057	287.7	2.03	2	4	0.0	3	0.8	26
86.830	282.6	2.00	2	5	-0.2	3	0.7	26
86.884	285.0	1.84	2	5	0.0	3	0.6	26
87.000	280.4	1.84	2	5	-0.1	3	0.8	26
79.638	287.4	1.98	3n		0.9			26-Inch
86.905	282.7	1.89	3n		0.8			26-Inch

Scardia, 1981: +2.8, +0.02; +2.5, -0.02.

1614 A 2216 02 02.2 +12 11

86.824	143.1	1.55	2	7	0.0	3	0.6	26
86.830	145.3	1.64	2	5	-0.2	3	1.4	26
86.884	144.6	1.64	2	5	0.0	3	1.5	26
86.846	144.3	1.61	3n		1.2			26-Inch

LDS 65 02 02.3 -26 34

78.792	63.4	3.63	2	7	+0.1	1	0.3	60
78.792	63.4	3.63	1n		0.3			60-Inch

This is the first measure of this pair of late-M dwarfs.

HU 1559 02 02.3 -50 44

84.795	121.4	0.64	2	5	+0.1	4	0.2	36
84.798	123.8	0.78	2	7	-0.2	4	0.0	36
84.801	119.8	0.84	4	7	+0.1	4	0.2	36
84.798	121.7	0.75	3n		0.1			36-Inch

Considerable decrease in angle and separation.

RST 1230 02 03.1 -40 53

84.795	8.0	0.53	2	6	+0.2	4	0.4	36
84.798	9.6	0.54	2	7	+0.4	4	0.4	36
84.801	9.2	0.48	2	7	+0.3	4	0.6	36
84.798	8.9	0.52	3n		0.5			36-Inch

BRT 355 02 03.5 -05 48

78.781	55.9	3.69	2	6	+0.4	1	0.2	36
78.787	56.1	3.61	2	5	+0.1	1	0.4	36
78.789	53.3	3.63	2	8	+0.2	1	0.3	36
78.785	55.1	3.64	3n		0.3			36-Inch

1631 STF 208 02 03.7 +25 56

81.015	319.9	1.16	2	7	+0.1	4	1.5	26
81.842	325.5	0.86	2	7	+0.1	4	1.3	26
81.867	321.4	0.91	2	4	0.0	3	1.4	26
86.824	328.0	1.08	2	7	0.0	3	1.2	26
87.000	325.1	1.17	2	4	0.0	3	1.8	26
81.575	322.3	0.98	3n		1.4			26-Inch
86.912	326.6	1.12	2n		1.5			26-Inch

Kranjc and Pigoni, 1960: +1.0, +0.02; -1.0, +0.06.

DAW 115 02 04.7 -50 28

78.806	38.5	1.15	1	5	+0.5	1	0.0	60
78.806	38.5	1.15	1n		0.0			60-Inch

1645 BU 516 02 05.2 -00 58

86.058	307.7	0.74	2	6	0.0	3	0.2	26
86.063	309.3	0.61	2	6	0.0	3	0.4	26
86.082	304.3	0.57	2	5	+0.1	3		26
86.068	307.1	0.64	3n		0.3			26-Inch

1655 SEE 16 02 06.0 -22 09

78.773	219.1	0.21	2	7	+0.7	1	0.0	36
78.781	212.9	0.23	2	7	+0.4	1	0.0	36
78.784	213.3	0.24	2	8	+0.6	1	0.2	36
78.779	215.1	0.23	3n		0.1			36-Inch

HU 1347 02 06.6 -47 48

84.795	314.6	0.86	2	6	+0.3	4	0.6	36
84.798	312.5	0.82	2	6	+0.5	4	0.8	36
84.801	313.8	0.84	2	7	+0.4	4	0.8	36
84.798	313.6	0.84	3n		0.7			36-Inch

FIN 14 02 11.1 -35 40

78.792	145.6	3.57	2	7	+0.2	1	2.5	60
78.800	145.6	3.63	2	5	+0.9	1	2.2	60
78.796	145.6	3.60	2n		2.4			60-Inch

Although the motion appears rectilinear, it cannot be reconciled with the large proper motion. Physical?

1696 STF 226 02 12.2 +23 58

86.830	239.2	1.77	2	6	-0.1	3	1.2	26
86.884	235.7	1.82	2	6	0.0	3	0.8	26
87.000	237.8	1.90	2	4	-0.1	3	1.0	26
86.905	237.6	1.83	3n		1.0			26-Inch

RST 2275 02 12.7 -33 54

84.773	94.2	0.22	2	6	0.0	3	0.0	60	
84.787	99.2	0.17	2	8	+0.1	3	0.0	60	
84.780	96.7	0.20	2n		0.0			60-Inch	

About a 40 degree decrease in angle.

1701 HO 497 02 12.8 +37 22

86.058	83.4	0.46	2	5	0.0	3	0.8	26	
86.063	85.2	0.53	2	7	0.0	3	0.6	26	
86.082	89.5	0.49	2	5	+0.2	3	0.8	26	
86.068	86.0	0.49	3n		0.7			26-Inch	

1709 STF 228 02 14.0 +47 29

79.846	267.7	1.05	2	5	-0.2	4	0.4	26	
79.885	268.3	1.13	2	6	-0.2	4	0.5	26	
80.057	267.1	1.11	2	5	-0.4	3	0.5	26	
86.824	272.2	1.16	2	7	0.0	3	0.4	26	
86.830	272.9	1.13	2	5	-0.3	3	0.7	26	
86.884	273.1	0.97	2	5	0.0	3	0.8	26	
79.929	267.7	1.10	3n		0.5			26-Inch	
86.846	272.7	1.09	3n		0.6			26-Inch	

Heintz, 1984: 0.0, +0.05; -0.6, +0.01.

1720 HU 807 02 14.4 +34 54

81.015	142.2	0.29	2	8	+0.1	4	0.2	26	
81.842	144.8	0.44	2	7	0.0	4	0.1	26	
81.428	143.5	0.36	2n		0.1			26-Inch	

RST 2276 02 15.1 -39 48

78.792	114.1	0.26	2	6	+0.3	1	0.0	60	
78.800	113.0	0.22	2	4	+0.7	1	0.2	60	
78.806	111.6	0.23	2	5	+0.4	1	0.0	60	
78.800	112.9	0.24	3n		0.1			60-Inch	

Considerable direct motion.

1733 HTG 1 02 15.8 -18 14

78.773	102.7	1.59	2	6	+0.4	1	0.3	36	
78.781	102.4	1.62	2	5	+0.4	1	0.7	36	
78.784	101.5	1.59	2	8	+0.2	1	0.8	36	
78.779	102.2	1.60	3n		0.6			36-Inch	

Heintz, 1978: +3.2, -0.01.

1728 HU 1036 02 16.1 +35 03

81.015	344.5	0.61	2	7	+0.2	4	0.3	26	
81.842	349.4	0.55	2	6	0.0	4	0.0	26	
86.023	345.9	0.46	2	6	-0.1	3	0.0	26	
86.063	347.0	0.48	2	6	0.0	3	0.3	26	
83.736	346.7	0.52	4n		0.2			26-Inch	

1737 STF 234 02 17.3 +61 21

86.830	232.8	0.78	4	5	-0.3	3	0.8	26	
86.884	230.6	0.84	2	5	+0.1	3	0.7	26	
86.857	231.7	0.81	2n		0.8			26-Inch	

Scardia, 1981: -3.7, -0.03.

HJ 3494 02 19.8 -35 26

78.792	266.8	1.83	2	7	+0.3	1	0.2	60	
78.800	265.0	1.90	2	5	+0.3	1	0.3	60	
78.796	265.9	1.86	2n		0.2			60-Inch	

Heintz, 1982: +2.4, +0.10.

1777 HU 1037 02 20.6 +63 22

78.836	330.5	0.38	1	5	-0.2	3	0.2	26	
78.932	332.0	0.46	2	7	-0.2	3	0.3	26	
79.885	331.3	0.45	2	6	-0.2	4	0.9	26	
79.218	331.3	0.43	3n		0.5			26-Inch	

FIN 81 02 21.0 -52 42

84.787	60.8	0.96	1	7	0.0	3	2.6	60	
84.790	69.6	0.88	2	7	+0.1	3	2.5	60	
84.788	65.2	0.92	2n		2.5			60-Inch	

Unchanged in 52 years.

1786 STF 248 02 21.1 +42 47

78.932	87.2	0.26	2	6	-0.1	3	0.3	26	
79.846	82.5	0.28	2	5	-0.2	4	0.0	26	
79.885	82.0	0.31	2	6	-0.2	4	0.2	26	
81.867	64.6	0.26	2	4	-0.3	3		26	
79.554	83.9	0.28	3n		0.2			26-Inch	
81.867	64.6	0.26	1n					26-Inch	

Popovic, 1980: +0.1, -0.10; -10.1, -0.10.
Couteau, 1984: +1.2, -0.02; - 3.5, +0.01.

1796 HU 425 02 21.2 +21 36

76.966	180.9	0.37	1	7	-0.1	4	0.5	26	
78.064	185.8	0.39	1	7	-0.1	3	0.3	26	
78.083	176.2	0.38	1	5	+0.4	3	0.4	26	
77.704	181.0	0.38	3n		0.4			26-Inch	

Heintz, 1973: +9.1, +0.11.

1812 HU 426 02 21.6 -14 34

78.773	350.6	0.61	1	6	+0.6	1	0.4	36	
78.781	357.3	0.68	2	5	+0.4	1		36	
78.784	351.8	0.74	2	7	+0.2	1	0.6	36	
78.779	353.2	0.68	3n		0.5			36-Inch	

	I 1141			02 22.1 -42 59						
84.787	267.7	0.42	2	8	+0.1	3	0.0	60		
84.790	269.1	0.44	2	8	+0.2	3	0.2	60		
84.788	268.4	0.43	2n	0.1	60-Inch					
1821	HO 313			02 23.3 -07 50						
78.773	78.2	1.97	2	6	+0.6	1	0.3	36		
78.781	78.8	2.20	2	5	+0.4	1	0.7	36		
78.784	77.4	2.19	2	8	+0.2	1	0.7	36		
78.779	78.1	2.12	3n	0.6	36-Inch					
	RST 5189			02 24.5 -24 35						
78.773	298.8	0.24	2	6	+0.7	1		36		
78.784	299.9	0.29	2	6	+0.4	1	0.2	36		
78.789	295.5	0.28	2	8	+0.3	1	0.3	36		
78.782	298.1	0.27	3n	0.2	36-Inch					
	BU 739			02 24.8 -29 52						
84.795	261.0	1.61	2	6	+0.4	4	0.2	36		
84.801	259.8	1.61	2	3	+0.8	4		36		
84.798	260.4	1.61	2n	0.2	36-Inch					
1844	A 2502			02 25.2 -10 29						
78.787	298.8	2.32	2	4	+0.3	1	.32	36		
78.789	297.4	2.18	2	9	0.0	1	2.5	36		
78.788	298.1	2.25	2n	2.8	36-Inch					

Direct motion with distance unchanged.

1833	STF 257			02 25.7 +61 33						
78.836	39.7	0.27	2	5	-0.2	3	0.4	26		
78.932	40.7	0.26	2	6	-0.1	3	0.0	26		
79.846	40.5	0.29	2	5	-0.2	4	0.5	26		
79.885	41.8	0.29	2	6	-0.2	4	0.5	26		
79.375	40.7	0.29	4n	0.4	26-Inch					

Valbousquet, 1980: -3.7, -0.02.
Zaera, 1985: +0.9, -0.03.

1852	A 2504			02 26.5 -09 37						
78.789	356.7	2.45	2	7	+0.1	1	2.8	36		
78.789	356.7	2.45	1n	2.8	36 Inch					
1851	HO 216			02 27.0 +31 17						
78.083	357.0	1.44	1	5	0.0	3	2.0	26		
78.836	1.6	1.29	2	4	-0.1	3	2.2	26		
78.932	359.5	1.39	2	6	0.0	3	2.0	26		
78.617	359.4	1.37	3n	2.1	26-Inch					

1865	A 2329			02 27.7 +04 26						
78.064	143.8	0.24	1	6	0.0	3	0.4	26		
79.885	222.3	0.17	2	6	-0.1	4		26		
81.015	268.8	0.26	2	7	0.0	4		26		
81.842	265.5	0.32	2	5	-0.1	4		26		
86.063	292.1	0.41	2	7	-0.2	3	0.3	26		
86.082	293.1	0.44	2	5	-0.3	3		26		
86.085	296.3	0.42	2	5	0.0	3		26		
86.824	291.8	0.36	2	7	0.0	3	0.3	26		
86.830	291.8	0.40	2	6	-0.1	3	0.3	26		
78.064	143.8	0.24	1n	0.4	26-Inch					
79.885	222.3	0.17	1n		26-Inch					
81.428	267.2	0.29	2n		26-Inch					
86.377	293.0	0.41	5n	0.3	26-Inch					

Eggen, 1967: -19.4, +0.03; -2.5, -0.02;
+ 8.4, 0.00; +2.6, -0.03.

	B 671			02 27.8 -36 41						
78.792	257.4	0.46	2	7	+0.3	1	0.1	60		
78.800	256.6	0.48	2	5	+0.3	2	0.4	60		
78.796	257.0	0.47	2n	0.2	60-Inch					
	KUI 8			02 28.1 +01 58						
81.842	33.0	0.53	2	6	-0.1	4	0.1	26		
85.080	31.8	0.50	2	7	-0.1	3	0.3	26		
86.044	29.3	0.49	2	6	-0.1	3	0.3	26		
86.063	32.1	0.49	2	6	0.0	3	0.4	26		
84.757	31.6	0.50	4n	0.3	26-Inch					
	RST 1240			02 28.5 -40 51						
84.787	249.1	0.34	2	8	+0.1	3	0.2	60		
84.790	249.2	0.34	2	8	+0.2	3	0.3	60		
84.788	249.2	0.34	2n	0.2	60-Inch					

Fairly rapid angular decrease. Closing.

	WOR 2			02 28.8 +32 15						
76.966	94.0	0.32	2	7	-0.1	4	0.3	26		
77.946	94.6	0.32	2	6	+0.1	3	0.5	26		
78.064	95.0	0.35	2	6	+0.1	3	0.3	26		
79.885	98.1	0.40	2	7	0.0	4	0.3	26		
81.842	101.7	0.35	2	6	0.0	4	0.3	26		
77.659	94.5	0.33	3n	0.4	26-Inch					
80.864	99.9	0.38	2n	0.3	26-Inch					

These measures do not agree with Baize's orbit (1985).

1860	STF 262			02 29.1 +67 24						
78.932	239.4	2.56	2	7	0.0	3	2.5	26		
79.846	237.0	2.62	2	5	+0.2	4	2.0	26		
79.885	237.7	2.52	2	6	-0.1	4	1.6	26		
79.554	238.0	2.57	3n	2.0	26-Inch					

Heintz, 1962: +3.7, +0.12.

1872 A 1275 02 29.1 +56 37

76.920	23.1	0.72	2	3	-0.3	3	0.0	26	
78.064	19.9	0.76	2	7	0.0	3	0.0	26	
78.083	22.3	0.72	2	5	+0.2	3	0.1	26	
77.689	21.8	0.73	3n	0.0				26-Inch	

1913 A 660 02 31.4 +42 34

81.842	311.8	0.46	2	5	0.0	4	0.1	26	
86.023	307.3	0.41	2	5	0.0	3	0.3	26	
86.044	307.6	0.39	2	6	-0.3	3	0.2	26	
84.636	308.9	0.42	3n	0.2				26-Inch	

1927 A 1927 02 32.3 +35 43

76.703	185.8	0.81	1	6	0.0	3	2.5	26	
78.064	189.6	0.82	2	6	+0.2	3	2.0	26	
78.083	187.2	0.72	2	5	+0.3	3	2.2	26	
77.617	187.5	0.78	3n	2.2				26-Inch	

1938 STT 42 02 33.3 +52 19

86.063	290.9	0.19	2	7	0.0	3		26	
86.824	291.4	0.18	2	7	-0.2	3		26	
86.444	291.2	0.18	2n					26-Inch	

Baize, 1985: -0.7, +0.02.

B 674 02 33.6 -39 11

78.792	21.2	0.24	2	5	+0.3	1	0.3	60	
78.800	20.3	0.21	2	5	+0.3	2	0.3	60	
84.773	13.8	0.21	2	7	0.0	3	0.2	60	
84.787	15.4	0.18	2	8	+0.1	3	0.3	60	
84.790	15.2	0.18	2	8	+0.2	3	0.4	60	
78.796	20.8	0.22	2n	0.3				60-Inch	
84.783	14.8	0.19	3n	0.3				60-Inch	

DON 36 02 34.9 -41 57

78.792	109.6	0.29	2	5	+0.5	1	0.5	60	
78.800	112.6	0.29	2	4	+0.3	1	0.6	60	
78.806	108.4	0.32	2	4	+0.3	1	0.7	60	
78.800	110.2	0.30	3n	0.6				60-Inch	

RST 54 02 35.9 -45 33

84.795	175.9	0.70	2	6	+0.2	4		36	
84.798	180.5	0.63	2	6	+0.2	4	0.2	36	
84.801	179.9	0.64	2	6	0.0	4	0.2	36	
84.798	178.8	0.66	3n	0.2				36-Inch	

1990 HU 1216 02 37.1 -11 12

78.784	351.3	0.48	1	7	+0.3	1	1.6	36	
78.789	350.5	0.54	1	8	0.0	1	2.0	36	
78.786	350.9	0.51	2n	1.8				36-Inch	

Erceg, 1970: -2.4, +0.12.

1993 A 2219 02 37.9 +20 03

85.080	149.5	0.31	2	7	0.0	3	0.0	26	
86.023	156.9	0.39	2	5	0.0	3	0.4	26	
86.044	150.2	0.33	2	6	-0.3	3	0.0	26	
85.716	152.2	0.34	3n	0.1				26-Inch	

2011 BU 1315 02 39.1 +14 30

86.830	128.5	1.58	2	5	0.0	3	1.5	26	
87.095	128.0	1.77	2	5	+0.2	3	2.6	26	
87.098	129.6	1.57	2	7	+0.2	3	0.8	26	
87.008	128.7	1.64	3n	1.6				26-Inch	

2013 A 2336 02 39.2 +03 43

76.966	313.0	2.79	2	7	0.0	4	3.5	26	
77.946	315.8		2	6	0.0	3	3.8	26	
78.932	315.0	2.88	2	7	0.0	3	4.0	26	
79.885	315.0	2.78	2	6	-0.1	4	4.0	26	
78.594	314.3	2.82	3n	3.8				26-Inch	

2010 A 2023 02 39.4 +25 52

85.080	223.6	0.51	4	7	0.0	3	0.2	26	
86.824	225.1	0.57	2	7	0.0	3	0.2	26	
86.830	222.1	0.54	2	6	-0.1	3	0.3	26	
86.245	223.6	0.54	3n	0.2				26-Inch	

HU 1350 02 39.6 -54 25

84.787	72.6	0.60	2	7	+0.1	3	0.6	60	
84.790	69.2	0.58	2	8	+0.3	3	0.6	60	
84.788	70.9	0.59	2n	0.6				60-Inch	

About 100 degrees retrograde motion.

I 386 BC 02 39.7 -59 33

84.787	7.0	0.68	2	7	+0.2	3	0.4	60	
84.790	8.6	0.65	2	7	+0.2	3	0.4	60	
84.788	7.8	0.66	2n	0.4				60-Inch	

2044 SEE 19 02 40.5 -24 08

84.773	291.8	0.26	2 5 +0.1 3 0.5 60
84.776	291.2	0.31	2 6 +0.1 3 0.3 60
84.787	292.4	0.27	2 7 +0.5 3 0.4 60
84.779	291.8	0.28	3n 0.4 60-Inch

Closing in.

2043 STT 45 02 40.9 +04 52

86.023	276.7	0.99	2 5 0.0 3 2.2 26
86.044	274.3	1.03	2 6 -0.2 3 1.8 26
86.058	276.7	1.00	2 7 -0.1 3 2.0 26
86.042	275.9	1.01	3n 2.0 26-Inch

B 1923 02 41.4 -71 27

84.795	77.8	0.29	2 6 +0.3 4 0.6 36
84.798	81.5	0.26	4 4 +0.3 4 0.8 36
84.801	84.7	0.27	2 6 +0.1 4 0.6 36
84.798	81.3	0.27	3n 0.7 36-Inch

There has been a large change since the last measure in 1939. Deserves attention.

2051 HU 539 02 42.4 +49 25

86.058	37.9	0.20	2 6 -0.2 3 26
86.063	33.6	0.23	2 6 -0.1 3 26
86.060	35.8	0.22	2n 26-Inch

2075 A 452 02 42.9 -06 29

78.770	113.7	1.90	2 5 +0.1 1 0.0 36
78.773	113.7	1.82	2 6 +0.5 1 0.1 36
78.781	112.6	1.95	2 4 +0.2 1 0.1 36
78.775	113.3	1.89	3n 0.1 36-Inch

HJ 3527 02 43.4 -40 32

78.792	41.2	2.09	2 7 +0.5 1 0.3 60
78.800	40.4	2.16	2 5 +0.4 1 0.2 60
78.796	40.8	2.12	2n 0.2 60-Inch

2099 STF 303 02 44.7 -01 58

86.824	180.0	5.94	1 7 0.0 3 0.4 26
86.830	180.3	5.85	1 5 0.0 3 0.7 26
87.095	180.5	5.85	2 5 +0.1 3 0.6 26
86.916	180.3	5.88	3n 0.6 26-Inch

2103 A 453 02 45.3 -05 29

78.789	99.0	0.69	2 8 +0.2 1 0.6 36
78.789	99.0	0.69	1n 0.6 36-Inch

DON 40 02 45.6 -20 04

84.773	274.3	0.32	2 6 +0.1 3 0.2 60
84.787	268.6	0.33	2 7 +0.6 3 0.0 60
84.780	271.4	0.32	2n 0.1 60-Inch

2111 BU 83 02 46.0 -04 58

80.095	34.5	0.74	1 5 +0.1 3 2.0 26
80.104	34.3	0.65	2 5 +0.2 3 2.8 26
80.117	39.2	0.63	2 5 +1.0 3 2.0 26
80.120	35.1	0.88	1 5 +0.7 3 2.0 26
80.109	35.8	0.72	4n 2.2 26-Inch

Erceg, 1984: -2.8, +0.06.

2133 A 2411 02 47.7 +01 42

76.966	279.9	0.26	2 6 0.0 4 1.2 26
77.946	280.2		2 5 0.0 3 1.0 26
78.932	275.1	0.19	2 5 0.0 3 1.2 26
79.885	278.7	0.25	2 5 -0.2 4 1.5 26
78.594	277.9	0.23	3n 1.3 26-Inch

Closed in with little angular change.

2137 HU 604 02 48.4 +36 20

76.728	203.9	1.97	2 6 -0.1 4 1.5 26
77.946	200.7	1.99	2 6 +0.1 3 2.4 26
78.064	206.8	1.94	2 6 +0.1 3 1.6 26
77.579	203.8	1.97	3n 1.8 26-Inch

FIN 82 02 49.4 -59 38

78.789	305.0	0.86	2 8 +0.3 1 0.6 36
78.806	304.5	1.00	2 4 +0.1 1 0.5 60
84.787	302.8	0.98	2 6 +0.2 3 0.7 60
84.790	302.8	0.94	2 8 +0.3 3 0.8 60
78.789	305.0	0.86	1n 0.6 36-Inch
82.794	303.4	0.97	3n 0.7 60-Inch

B 1437 02 50.1 -64 01

84.795	261.8	0.25	2 5 +0.3 4 36
84.801	267.1	0.20	2 5 +0.2 4 0.0 36
84.798	264.4	0.22	2n 0.0 36-Inch

Motion direct. Quadrant in doubt.

B 1926 02 50.3 -17 33

78.784	345.9	0.29	2 8 +0.3 1 0.0 36
78.789	345.1	0.27	2 8 0.0 1 0.3 36
78.786	345.5	0.28	2n 0.2 36-Inch

2168 ES 557 02 51.1 +48 06

75.025	321.1	5.98	4	4	-0.2	3	3.5	26
76.703	321.4	5.81	2	7	-0.1	3	2.5	26
78.064	321.0	6.04	2	6	0.0	3	2.2	26
76.597	321.2	5.94	3n		2.7		26-Inch	

HEI 99 02 51.3 +15 15

86.023	342.6	0.61	2	5	0.0	3	0.0	26
86.044	349.5	0.83	1	6	-0.4	3	0.0	26
86.058	347.6	0.76	1	6	-0.3	3	0.0	26
86.042	346.6	0.73	3n		0.0		26-Inch	

VOU 36 02 51.3 +01 42

85.080	8.9	0.31	1	7	0.0	3	0.3	26
86.044	5.3	0.36	1	6	-0.3	3	0.6	26
86.058	11.1	0.35	1	4	-0.1	3	0.0	26
85.727	8.4	0.34	3n		0.3		26-Inch	

2186 SEE 21 02 51.7 -21 17

84.773	61.4	0.11	2	6	+0.2	3		60
84.787	62.7	0.13	2	5	+0.2	3		60
84.787	53.4	0.12	2	7	+0.5	3		60
84.781	59.2	0.12	3n				60-Inch	

Has closed in with only a slow angular decrease.

HU 1562 02 51.7 -52 33

78.789	59.3	0.45	2	7	+0.3	1	0.4	36
84.790	59.9	0.47	2	7	+0.5	3	0.7	60
84.801	56.8	0.35	2	4	+0.2	4	0.6	36
81.795	58.0	0.40	2n		0.5		36-Inch	
84.790	59.9	0.47	1n		0.7		60-Inch	

Heintz, 1979: +3.1, -0.12; +5.4, -0.05.

FIN 16 02 52.3 -33 17

84.790	253.6	3.35	2	8	+0.3	3	3.2	60
84.790	253.6	3.35	1n		3.2		60-Inch	

2196 A 973 02 53.5 +31 34

76.703	244.6	0.40	2	7	-0.2	3	1.0	26
76.966	250.6	0.36	2	6	0.0	4	0.8	26
77.946	248.1	0.39	2	5	0.0	3	0.5	26
77.205	247.8	0.38	3n		0.8		26-Inch	

2200 BU 524 02 53.7 +38 21

76.703	321.5	0.18	3	7	0.0	4	1.2	26
76.966	314.3	0.21	3	7	0.0	4	0.6	26
77.946	312.6	0.18	2	6	+0.1	3	1.0	26
78.097	301.1	0.17	3	6	+0.2	4	0.5	26
78.113	311.6	0.17	4	7	+0.4	3	0.8	26
77.565	312.2	0.18	5n		0.8		26-Inch	

da Silva-Pinheiro, 1970: -2.5, -0.01.

I 1480 02 53.8 -44 37

78.792	129.2	0.51	2	6	+0.4	1	0.8	60
78.800	127.2	0.55	2	5	+0.4	1	1.0	60
78.796	128.2	0.53	2n		0.9		60-Inch	

2231 DAW 77 02 56.4 -28 57

84.773	66.7	0.16	2	6	+0.2	3		60
84.776	68.5	0.16	2	6	+0.2	3		60
84.784	64.9	0.15	2	6	+0.2	3	0.2	60
84.778	66.7	0.16	3n		0.2		60-Inch	

2230 HO 317 02 57.0 +17 14

86.058	308.6	3.68	2	6	-0.1	3	1.5	26
86.063	309.3	3.49	2	7	-0.3	3	0.8	26
86.085	309.4	3.60	2	6	-0.2	3	1.5	26
86.069	309.1	3.59	3n		1.3		26-Inch	

The magnitude difference is much less than the catalog value.

2242 BU 741 02 57.2 -24 58

78.770	325.7	0.63	2	5	0.0	1	0.3	36
78.773	326.7	0.57	2	7	+0.4	1	0.2	36
78.781	322.7	0.62	1	4	+0.7	1	0.0	36
84.776	329.0	0.78	2	5	+0.1	3	0.0	60
84.784	327.4	0.73	2	5	0.0	3	0.2	60
84.787	329.6	0.76	2	8	+0.6	3	0.0	60
78.775	325.0	0.61	3n		0.2		36-Inch	
84.782	328.7	0.76	3n		0.1		60-Inch	

van den Bos, 1956: +0.7, -0.10; -0.8, -0.09.

2236 A 2413 02 57.3 +01 53

78.932	76.4	0.26	2	5	0.0	3	0.1	26
79.885	80.8	0.26	1	6	-0.1	4	0.1	26
80.057	85.4	0.31	2	3	+0.3	3		26
86.058	105.5	0.28	2	6	0.0	3	0.0	26
86.063	103.3	0.33	2	6	-0.2	3		26
86.085	104.5	0.31	2	6	-0.2	3	0.2	26
79.625	80.9	0.28	3n		0.1		26-Inch	
86.069	104.4	0.31	3n		0.1		26-Inch	

Scardia, 1980: +0.8, -0.04; +2.4, -0.02.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

2246 BU 1173 02 58.6 +24 08

76.728	80.6	0.14	2	6	-0.1	4	0.1	26
76.966	78.8	0.19	2	6	0.0	4	0.0	26
77.946	80.3	0.24	2	6	+0.1	3	0.0	26
86.830	87.6	0.25	2	6	-0.2	3	0.0	26
87.095	91.5	0.30	2	5	+0.1	3	0.1	26
87.098	86.9	0.24	2	7	+0.1	3	0.0	26
87.103	88.7	0.26	2	5	0.0	3	0.0	26
77.213	79.9	0.19	3n		0.0		26-Inch	
87.032	88.7	0.26	4n		0.0		26-Inch	

Baize, 1987: -4.7, -0.01; -5.1, +0.06.

2253 BU 525 02 58.9 +21 37

81.015	260.4	0.57	2	7	+0.1	4	0.3	26
81.095	260.0	0.57	2	6	-0.1	3	0.0	26
81.100	258.7	0.45	2	7	0.0	3	0.1	26
86.058	261.0	0.49	2	7	0.0	3	0.0	26
86.063	261.3	0.41	2	7	-0.1	3	0.0	26
86.082	263.2	0.49	2	5	-0.3	3	0.0	26
81.070	259.7	0.53	3n		0.1		26-Inch	
86.068	261.8	0.46	3n		0.0		26-Inch	

Costa, Morales, 1978: +3.1, +0.05;
+2.3, -0.03.

2268 A 2610 02 59.4 -10 16

78.770	6.5	0.43	1	5	0.0	1	0.0	36
78.773	6.5	0.33	1	7	+0.4	1	0.0	36
78.781	8.6	0.34	1	4	+0.7	1	0.0	36
78.775	7.2	0.37	3n		0.0		36-Inch	

2283 A 2611 03 00.3 -11 17

78.770	349.3	0.22	3	5	+0.1	1	0.0	36
78.773	343.1	0.18	2	7	+0.5	1		36
78.784	342.4	0.16	2	6	+0.2	1		36
78.776	344.9	0.19	3n		0.0		36-Inch	

Baize, 1987: -4.5, -0.01.
Rapid direct motion. Quadrant in doubt.

2312 BU 11 03 02.7 -07 41

78.932	71.4	1.67	2	6	-0.1	3	3.4	26
79.885	69.5	1.57	2	5	-0.1	4	3.4	26
80.104	69.6	1.58	2	5	-0.1	3	3.2	26
79.640	70.2	1.61	3n		3.3		26-Inch	

2322 A 1824 03 04.0 +28 31

81.095	271.9	0.25	2	5	0.0	3		26
81.100	274.0	0.27	2	7	+0.1	3	0.8	26
85.080	266.7	0.31	2	7	0.0	3	1.0	26
82.425	270.9	0.28	3n		0.9		26-Inch	

I 1144 03 04.0 -40 07

78.792	229.6	0.17	2	6	+0.3	1	0.0	60
78.800	232.6	0.15	2	5	+0.4	1		60
78.808	238.3	0.13	2	3	+0.4	1		60
78.800	233.5	0.15	3n		0.0		60-Inch	

2337 A 2029 BC 03 05.2 +07 12

76.703	42.1	0.72	2	7	+0.1	4	0.0	26
78.097	47.2	0.69	2	6	+0.1	4	0.3	26
78.108	51.7	0.81	1	6	+0.4	3	0.3	26
77.636	47.0	0.74	3n		0.2		26-Inch	

2336 STF 346 03 05.5 +25 15

79.885	235.8	0.22	2	6	0.0	4	0.0	26
81.015	249.3	0.22	2	7	+0.1	4		26
81.095	240.4	0.22	2	6	0.0	3	0.0	26
81.100	239.1	0.24	2	7	0.0	3	0.2	26
86.824	246.1	0.28	2	7	-0.1	3	0.0	26
86.830	247.0	0.29	2	6	-0.1	3	0.0	26
87.095	247.0	0.28	2	5	0.0	3		26
87.098	248.6	0.29	2	7	+0.1	3	0.0	26
80.774	241.2	0.22	4n		0.1		26-Inch	
86.962	247.2	0.28	4n		0.0		26-Inch	

Heintz, 1981: -1.4, -0.01; -0.4, 0.00.

RST 2294 03 05.6 -23 28

84.773	335.2	0.40	2	5	+0.2	3		60
84.776	342.9	0.40	2	6	+0.2	3		60
84.784	335.4	0.41	2	4	+0.2	3		60
84.778	337.8	0.40	3n				60-Inch	

Angular decrease and separation increase.

2355 A 2416 03 06.6 +00 46

81.100	188.3	0.45	1	7	+0.1	3	0.2	26
81.842	187.9	0.48	2	5	0.0	4		26
85.080	186.4	0.52	1	7	-0.1	3	0.4	26
82.674	187.5	0.48	3n		0.3		26-Inch	

2353 AG 61 03 06.9 +20 52

86.058	21.6	0.54	1	7	0.0	3	0.5	26
86.063	22.4	0.65	2	6	-0.2	3	0.5	26
86.082	18.1	0.57	2	4	-0.3	3	0.5	26
86.068	20.7	0.59	3n		0.5		26-Inch	

RST 59 03 07.4 -56 45

78.792	43.4	1.10	1	4	+0.5	1	0.2	60
78.800	43.7	1.17	2	5	+0.4	1	0.2	60
78.796	43.6	1.14	2n		0.2		60-Inch	

2357 A 1533 03 07.7 +36 52

76.728	6.6	1.05	2	6	-0.1	3	0.5	26
78.083	4.0	1.18	2	5	+0.1	3	0.1	26
78.097	5.7	1.17	2	7	0.0	4	0.2	26
77.636	5.4	1.13	3n		0.2			26-Inch

2366 BU 528 03 08.4 -03 35

78.770	10.3	0.42	1	5	-0.1	1	0.0	36
78.773	7.9	0.35	1	7	+0.5	1	0.0	36
78.781	13.2	0.59	2	3	+0.7	1		36
78.932	7.1	0.35	1	6	0.0	3	0.2	26
79.885	6.3	0.43	1	5	-0.1	3	0.2	26
80.095	10.9	0.44	1	5	-0.1	3	0.2	26
78.775	10.5	0.45	3n		0.0			36-Inch
79.637	8.1	0.41	3n		0.1			26-Inch

2373 A 2030 03 09.6 +05 12

80.095	283.9	0.28	2	5	0.0	3		26
80.104	282.9	0.32	2	6	+0.2	3	0.0	26
80.117	278.6	0.25	2		+0.5	3	0.1	26
80.120	284.0	0.28	2	6	+0.4	3	0.3	26
86.058	265.8	0.25	2	6	0.0	3	0.0	26
86.063	257.9	0.26	2	6	-0.1	3	0.0	26
86.082	263.9	0.26	2	5	-0.3	3		26
86.085	261.0	0.31	2	5	-0.2	3		26
80.109	282.4	0.28	4n		0.1			26-Inch
86.072	262.2	0.27	4n		0.0			26-Inch

Couteau, 1963: -4.3, -0.06; -1.9, -0.02.

2377 STT 50 03 12.6 +71 33

76.728	171.4	1.22	1	6	-0.1	4	0.0	26
76.966	171.1	1.09	1	6	0.0	4	0.0	26
77.946	171.7		2	5	+0.1	3	0.0	26
78.064	169.8	1.13	1	6	-0.2	3	0.1	26
77.426	171.0	1.15	3n		0.0			26-Inch

Popovic, 1973: +2.2, +0.04.

2416 STF 367 03 14.0 +00 44

78.932	145.8	1.02	2	7	-0.1	3	0.0	26
79.885	145.4	1.28	2	5	0.0	4	0.0	26
80.057	144.2	1.14	2	3	+0.1	3	0.2	26
86.058	141.1	1.08	2	6	0.0	3	0.0	26
86.063	142.4	1.07	2	6	-0.1	3	0.0	26
86.082	139.9	1.08	2	5	-0.2	3		26
79.625	145.1	1.15	3n		0.0			26-Inch
86.068	141.1	1.08	3n		0.0			26-Inch

Heintz, 1963: +1.4, +0.15; +0.6, +0.05.

FIN 83 03 14.0 -55 58

78.784	189.8	2.44	1	7	+0.2	1	2.5	36
78.789	188.6	2.42	1	7	0.0	1	2.4	36
78.786	189.2	2.43	2n		2.4			36-Inch

Unchanged.

2417 A 828 03 14.3 +09 11

81.842	209.3	1.11	2	5	0.0	4	1.0	26
85.080	207.6	1.20	2	7	0.0	3	0.7	26
86.044	204.7	1.12	1	6	0.0	3	0.8	26
84.322	207.2	1.14	3n		0.8			26-Inch

FIN 84 03 14.4 -60 30

78.784	114.1	0.61	2	6	+0.3	1	0.0	36
78.789	114.1	0.61	2	7	+0.1	1	0.2	36
78.786	114.1	0.61	2n		0.1			36-Inch

Slight increase in angle and distance.

2407 HU 1054 03 14.8 +66 14

76.966	236.4	0.50	2	7	0.0	4	0.2	26
77.946	232.8	0.36	2	5	-0.2	3	0.2	26
78.064	235.3	0.48	2	5	-0.1	3	0.2	26
78.083	233.8	0.43	2	5	0.0	3	0.4	26
77.765	234.6	0.44	4n		0.2			26-Inch

I 463 03 15.3 -42 43

78.792	117.6	0.57	2	4	+0.2	1	0.8	60
78.800	114.9	0.76	2	5	+0.4	1	0.8	60
78.796	116.2	0.66	2n		0.8			60-Inch

Direct motion, distance unchanged.

2439 A 2224 03 16.3 +19 20

77.106	332.5	1.00	1	6	+0.2	3	1.3	26
78.064	333.0	0.84	1	5	+0.1	3	1.8	26
78.083	340.3	0.95	1	5	+0.1	3	1.5	26
77.751	335.3	0.93	3n		1.5			26-Inch

2442 A 1285 03 16.4 -00 26

78.932	289.2	1.94	2	5	0.0	3	0.4	26
80.095	291.3	1.89	2	5	-0.1	3	0.6	26
80.104	291.0	1.90	2	5	+0.1	3	0.5	26
79.710	290.5	1.91	3n		0.5			26-Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

2444 A 2032 03 16.8 +05 02

81.100	273.4	2.56	2	7	0.0	3	2.2	26
85.080	273.8	2.48	2	7	0.0	3	2.8	26
86.023	274.6	2.70	2	5	-0.2	3	3.0	26
84.068	273.9	2.58	3n	2.7	26-Inch			

2436 STT 52 03 17.6 +65 39

76.728	76.7	0.41	2	6	0.0	4	0.4	26
76.966	75.4	0.45	2	7	0.0	4	0.2	26
77.946	79.8	0.35	2	5	-0.2	3	0.5	26
78.064	74.9	0.39	2	6	0.0	3	0.4	26
86.824	69.6	0.47	2	7	0.0	3	0.2	26
86.830	70.5	0.43	2	6	-0.3	3	0.5	26
87.095	70.0	0.46	2	5	0.0	3	0.2	26
87.098	72.0	0.52	2	6	0.0	3	0.2	26
77.426	76.7	0.40	4n	0.4	26-Inch			
86.962	70.5	0.47	4n	0.3	26-Inch			

Heintz, 1963: +6.1, -0.05; +7.3, +0.04.

2446 STT 53 03 17.8 +38 38

79.885	267.5	0.90	2	5	0.0	4	0.5	26
80.095	264.4	0.79	2	5	0.0	3	0.8	26
80.104	266.7	0.94	2	5	+0.1	3	0.5	26
87.103	260.6	0.86	2	5	-0.1	3	0.7	26
87.112	260.7	0.84	2	5	-0.1	3	0.8	26
87.114	262.5	0.73	2	7	+0.1	3	0.1	26
80.028	266.2	0.88	3n	0.6	26-Inch			
87.110	261.3	0.81	3n	0.5	26-Inch			

Rabe, 1948: +0.4, +0.02; -0.3, -0.03.
Zulevic, 1984: +3.2, +0.02; +2.7, -0.05.

B 1446 03 17.8 -63 48

78.784	220.9	0.56	2	6	+0.3	1	0.2	36
78.789	218.5	0.61	2	7	+0.2	1	0.3	36
78.786	219.7	0.58	2n	0.2	36-Inch			

2460 A 457 03 18.2 -06 25

78.770	101.4	0.45	2	5	+0.1	1	0.1	36
78.773	107.3	0.39	2	7	+0.4	1	0.0	36
78.784	102.9	0.45	2	6	+0.1	1	0.2	36
78.776	103.9	0.43	3n	0.1	36-Inch			

2459 AC 2 03 18.3 -00 56

77.108	250.2	1.20	2	6	0.0	3	2.2	26
77.119	252.9	1.28	2	5	0.0	3	2.6	26
77.133	249.4	1.15	2	8	+0.6	3	2.5	26
81.842	254.9	1.21	2	5	-0.1	4	1.8	26
85.080	254.1	1.30	2	7	-0.1	2	2.4	26
86.044	253.8	1.28	2	6	0.0	3	1.8	26
86.058	254.1	1.33	2	7	0.0	3	1.8	26
77.120	250.8	1.21	3n	2.4	26-Inch			
84.756	254.2	1.28	4n	2.0	26-Inch			

Valbousquet, 1981: +5.6, -0.02;
+6.6, -0.01.

2467 DAW 78 03 18.7 -29 31

78.792	299.5	0.24	2	7	+0.5	1	0.2	26
78.800	297.6	0.22	2	5	+0.4	1	0.1	26
78.796	298.6	0.23	2n	0.2	60-Inch			

2464 BU 1177 03 18.9 -01 02

81.842	212.0	0.50	2	5	0.0	4	0.0	26
85.080	210.6	0.50	2	7	0.0	3	0.0	26
86.044	213.8	0.57	2	6	0.0	3	0.0	26
86.058	215.1	0.47	2	6	0.0	3	0.6	26
84.756	212.9	0.51	4n	0.2	26-Inch			

Couteau, 1958: +9.7, +0.09.

RST 70 03 19.3 -50 52

78.784	69.7	0.22	2	6	+0.4	1	0.1	36
78.787	69.7	0.27	2	4	+1.1	1		36
78.789	69.5	0.24	2	8	+0.2	1	0.2	36
78.787	69.6	0.24	3n	0.1	36-Inch			

There has been a large change, poorly defined by the sparse measures.

JC 8 03 19.5 -21 45

84.795	192.6	0.40	2	5	+0.1	4	0.4	36
84.798	192.1	0.41	2	5	0.0	4	0.6	36
84.801	191.0	0.40	2	4	+0.5	4	0.4	36
84.798	191.9	0.40	3n	0.5	36-Inch			

Heintz, 1979: -0.5, -0.13.

2452 HU 1056 03 19.6 +67 14

86.824	267.5	1.14	2	7	0.0	3	0.1	26
86.830	263.9	1.15	2	6	-0.3	3	0.0	26
87.095	265.4	1.21	2	5	0.0	3	0.1	26
87.098	265.9	1.18	2	7	0.0	3	0.0	26
86.962	265.7	1.17	4n	0.0	26-Inch			

COU 36 03 19.6 +18 41

86.085	149.3	0.80	2	6	-0.2	3	0.1	26
86.824	149.2	0.88	2	7	-0.3	2	0.0	26
86.830	151.0	0.75	2	6	-0.1	3	0.0	26
86.493	149.8	0.81	3n	0.0	26-Inch			

I 719 03 19.9 -30 13

78.781	143.3	1.56	2	5	+0.6	1	0.1	36
78.787	144.6	1.51	2	5	+0.9	1	0.2	36
78.789	142.7	1.56	2	9	+1.0	1	0.1	36
78.786	143.5	1.54	3n	0.1	36-Inch			

	HU 1565		03 21.2 -53 26						
84.795	99.8	1.66	2	4	0.0	4	0.0	36	
84.798	101.0	1.74	2	5	-0.1	4	0.0	36	
84.801	99.0	1.66	2	5	+0.4	4	0.0	36	
84.798	99.9	1.69	3n		0.0			36	Inch
2492	HU 20		03 21.5 -11 13						
84.773	225.3	0.40	2	5	+0.3	3		60	
84.784	225.2	0.30	2	4	+0.2	3	0.3	60	
84.787	233.5	0.24	2	7	+0.3	3	0.2	60	
84.781	228.0	0.31	3n		0.2			60	Inch
2491	STF 380		03 21.8 +08 46						
81.842	27.5	0.99	2	5	0.0	4	0.8	26	
85.080	22.6	0.89	2	7	+0.2	3	0.5	26	
86.044	20.4	0.84	2	6	-0.1	3	1.2	26	
86.058	19.3	0.93	1	6	0.0	3	0.6	26	
84.756	22.4	0.91	4n		0.8			26	Inch
	RST 73		03 24.1 -57 27						
78.789	218.6	0.87	2	7	+0.2	1	0.1	36	
78.789	218.2	0.87	1n		0.1			36	Inch
	WOR 4		03 24.2 +23 47						
78.932	351.9	2.05	2	7	0.0	3	1.2	26	
79.885	351.5	2.16	2	6	0.0	4	1.2	26	
80.095	350.3	1.93	2	6	-0.1	3	1.2	26	
86.058	348.1	1.90	3	7	0.0	3	1.2	26	
86.085	348.0	2.41	1	6	-0.3	3	1.3	26	
86.824	348.3	2.09	2	7	-0.2	3	1.0	26	
79.637	351.2	2.05	3n		1.2			26	Inch
86.322	348.1	2.13	3n		1.2			26	Inch
2532	HU 21		03 25.8 -13 04						
84.773	40.0	1.45	2	5	0.0	3	1.2	60	
84.784	41.6	1.38	2	6	+0.5	3	1.2	60	
84.787	42.5	1.35	2	7	+0.3	3	2.5	60	
84.781	41.4	1.39	3n		1.6			60	Inch
	B 1449		03 26.0 -35 57						
84.773	9.7	0.14	2	6	+0.4	3		60	
84.776	11.4	0.12	2	6	+0.5	3		60	
84.779	10.7	0.14	2	5	+0.6	3		60	
84.776	10.6	0.13	3n					60	Inch

The motion is impossible to interpret due to the lack of measures.

2542	A 2345		03 27.5 +19 11						
78.932	162.3	1.09	2	6	0.0	3	0.4	26	
79.885	167.6	0.98	2	5	0.0	4	0.6	26	
80.095	162.8	0.97	4	6	0.0	3	0.4	26	
79.637	164.2	1.01	3n		0.5			26	Inch
	COU 260		03 28.1 +20 28						
86.830	29.5	0.19	2	6	-0.1	3		26	
87.098	21.8	0.25	2	7	0.0	3	0.8	26	
87.103	13.6	0.28	2	5	-0.2	3	0.7	26	
87.114	21.4	0.27	2	7	0.0	3	0.6	26	
87.036	21.6	0.25	4n		0.7			26	Inch
2554	STF 395		03 28.7 +29 04						
77.108	93.9	1.83	2	5	0.0	3	1.2	26	
77.111	94.9	1.78	2	5	0.0	3	1.6	26	
77.119	93.6	1.77	2	6	-0.1	3	1.6	26	
77.113	94.1	1.79	3n		1.5			26	Inch
2568	I 720 BC		03 28.9 -19 59						
78.781	105.9	1.93	2	5	+0.5	2	0.7	36	
78.787	105.1	1.90	2	5	+0.9	1	0.7	36	
78.789	103.6	1.91	2	8	+0.9	1	0.7	36	
78.785	104.9	1.91	3n		0.7			36	Inch
	B 50		03 29.9 -55 55						
84.773	190.0	0.72	2	5	+0.4	3	0.0	60	
84.776	185.2	0.68	2	6	+0.3	3	0.2	60	
84.790	185.2	0.67	2	7	+0.1	3	0.2	60	
84.780	186.8	0.69	3n		0.1			60	Inch

No measures since 1932. Retrograde motion.

2584	STF 403		03 31.2 +19 47						
86.830	173.4	2.45	1	5	-0.1	3	0.2	26	
87.095	173.8	2.29	1	5	+0.1	3	0.0	26	
87.098	174.7	2.38	1	6	-0.1	3	0.5	26	
87.008	174.0	2.37	3n		0.2			26	Inch
2588	A 1931		03 31.8 +07 49						
78.113	53.4	0.78	2	6	0.0	3	0.8	26	
78.932	52.2	0.73	2	6	-0.2	3	1.2	26	
79.885	53.7	0.88	2	6	0.0	4	0.6	26	
80.104	51.2	0.83	2	6	-0.1	3	0.8	26	
79.258	52.6	0.80	4n		0.8			26	Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

2614 HU 207 03 33.4 -13 01

78.770	301.5	0.97	2	5	0.0	1	1.2	26
78.773	302.7	0.69	2	6	+0.2	1	1.0	26
78.781	298.1	0.64	2	5	+0.6	1	1.2	26
78.775	300.8	0.77	3n	1.1			36-Inch	

2613 A 1932 03 33.6 +07 04

78.113	268.7	0.18	2	7	+0.1	3	0.2	26
78.932	262.2	0.22	2	6	0.0	3	0.0	26
79.885	277.2	0.25	2	6	+0.1	4		26
78.977	269.4	0.22	3n	0.1			26-Inch	

B 52 03 33.9 -31 05

78.800	150.3	0.09	2	5	+0.3	1		60
84.776	320.6	0.24	2	6	+0.1	3	0.0	60
84.784	321.8	0.25	2	5	+0.6	3	0.6	60
84.787	322.6	0.23	2	7	+0.4	3	0.6	60
78.800	150.3	0.09	1n				60-Inch	
84.782	321.7	0.24	3n	0.5			60-Inch	

Finsen, 1963: +2.7,-0.01; +2.5, -0.02.

2616 STF 412 03 34.4 +24 28

78.064	6.8	0.57	2	6	-0.2	3	0.0	26
78.083	4.6	0.57	2	6	-0.1	3	0.2	26
78.097	7.4	0.54	2	7	-0.1	4	0.3	26
78.108	6.2	0.46	1	7	-0.2	3	0.3	26
81.842	5.1	0.51	2	5	0.0	4	0.3	26
85.080	2.6	0.65	2	7	+0.1	3	0.2	26
86.044	2.5	0.64	1	7	-0.1	3	0.0	26
86.058	3.5	0.69	3	7	0.0	3	0.1	26
78.088	6.2	0.54	4n	0.2			26-Inch	
84.756	3.4	0.62	4n	0.2			26-Inch	

Scardia, 1985: 0.0, -0.04; +0.9, +0.02.

2612 STF 400 03 35.0 +60 02

86.824	261.6	1.22	2	7	-0.2	3	0.7	26
86.830	262.9	1.41	2	6	-0.5	3	1.0	26
87.098	264.1	1.29	2	6	0.0	3	0.6	26
87.103	262.3	1.35	2	5	-0.2	3	0.6	26
86.964	262.7	1.32	4n	0.7			26-Inch	

Baize, 1952: +2.7, -0.07.

2631 A 1933 03 35.5 +06 25

78.064	135.4	1.17	2	6	-0.1	3	0.6	26
78.083	137.7	1.25	1	5	-0.1	3	0.8	26
78.097	135.9	1.14	2	7	-0.1	4	1.3	26
78.081	136.3	1.19	3n	0.9			26-Inch	

2628 BU 533 03 35.6 +31 41

81.015	45.7	1.18	2	6	0.0	4	0.0	26
81.081	45.6	1.14	2	3	0.0	3	0.2	26
81.095	43.5	1.15	2	5	+0.1	3	0.3	26
81.064	44.9	1.16	3n	0.2			26-Inch	

COU 1862 03 36.4 +45 19

86.824	21.9	0.24	2	7	-0.1	3	0.8	26
87.098	22.3	0.35	2	6	0.0	3	0.8	26
87.103	13.4	0.35	2	5	-0.1	3	0.2	26
87.114	7.5	0.30	2	7	0.0	3	0.7	26
87.035	16.3	0.31	4n	0.6			26-Inch	

2636 STF 420 03 36.5 +23 55

86.830	112.0	6.83	2	5	-0.2	3	0.8	26
87.095	111.6	6.76	2	5	0.0	3	2.5	26
87.098	112.7	6.73	2	6	+0.1	3	1.0	26
87.008	112.1	6.77	3n	1.4			26-Inch	

2640 A 2418 03 36.5 +01 53

74.986	257.4	0.82	2	7	-0.1	3	0.1	26
76.703	257.1	0.92	2	7	+0.1	4	0.2	26
77.106	259.4	0.90	2	5	0.0	3	0.0	26
77.108	254.8	0.82	2	7	-0.1	3	0.2	26
76.476	257.2	0.86	4n	0.1			26-Inch	

2654 HU 22 03 37.9 -11 32

84.795	108.4	0.44	2	4	0.0	4	0.5	36
84.798	111.0	0.53	2	5	-0.1	4	0.8	36
84.801	111.1	0.56	2	4	+0.3	4	0.8	36
84.798	110.2	0.51	3n	0.7			36-Inch	

HEI 30 03 38.0 +16 29

86.058	13.5	0.79	2	7	0.0	3	0.2	26
86.063	19.2	0.92	2	6	0.0	3	0.2	26
86.085	20.4	0.67	2	6	-0.5	3	0.3	26
86.069	17.7	0.79	3n	0.2			26-Inch	

2667 HU 1064 03 39.6 +16 11

77.108	159.5	0.26	1	7	-0.1	3	0.0	26
77.133	156.7	0.29	3	8	+0.3	3	0.1	26
78.064	151.0	0.27	2	6	0.0	3	0.0	26
77.435	155.7	0.27	3n	0.0			26-Inch	

2668 STF 425 03 40.1 +34 08

78.113	75.3	1.81	2	6	-0.2	3	0.1	26	
78.116	76.6	1.83	2	4	0.0	3	0.1	26	
78.932	75.4	1.84	2	8	0.0	3	0.0	26	
87.103	72.1	2.10	2	5	-0.1	3	0.0	26	
87.112	72.8	2.06	2	5	-0.3	3	0.2	26	
87.114	70.8	1.90	2	7	+0.1	3	0.0	26	
78.387	75.8	1.83	3n	0.0		26-Inch			
87.110	71.9	2.02	3n	0.1		26-Inch			

2680 BU 1181 03 41.3 +45 53

76.966	88.7	0.17	2	7	-0.2	4	0.0	26	
77.106	92.1	0.19	2	6	-0.2	3	0.0	26	
77.108	84.2	0.17	2	7	0.0	3	0.2	26	
77.060	88.3	0.18	3n	0.1		26-Inch			

FIN 85 03 41.9 -60 31

78.784	330.3	0.83	2	6	+0.1	1	1.4	36	
78.789	330.5	0.87	2	7	0.0	1	1.4	36	
78.786	330.4	0.85	2n	1.4		36-Inch			

Slight direct motion.

2706 HU 436 03 42.1 -17 09

78.770	301.3	1.43	2	5	0.0	1	1.7	36	
78.773	301.2	1.32	2	6	+0.2	1	1.5	36	
78.789	298.3	1.38	2	8	+0.2	1	1.5	36	
78.777	300.2	1.38	3n	1.6		36-Inch			

2705 AG 72 03 42.8 +30 16

87.103	284.2	6.09	2	5	-0.1	3	0.3	26	
87.112	284.7	6.10	2	5	0.0	3	0.2	26	
87.114	283.9	6.21	2	7	+0.2	3	0.2	26	
87.110	284.3	6.13	3n	0.2		26-Inch			

2734 A 460 03 43.9 -09 20

78.770	81.0	0.67	2	5	0.0	1	0.0	36	
78.773	80.6	0.46	2	6	+0.3	1	0.2	36	
78.784	78.6	0.55	2	7	+0.2	1	0.2	36	
78.789	78.7	0.59	2	8	+0.3	1	0.1	36	
78.779	79.7	0.57	4n	0.1		36-Inch			

2728 BAR 3 03 44.2 +24 06

77.106	154.3	1.72	1	5	-0.1	3	0.2	26	
77.108	153.9	1.73	2	7	0.0	3	0.2	26	
77.111	161.0	1.72	3	5	-0.1	3	0.0	26	
77.119	153.8	1.93	4	5	+0.1	3	0.2	26	
77.111	155.8	1.78	4n	0.2		26-Inch			

2739 LV 3 03 44.2 -13 24

78.770	7.3	1.64	1	5	0.0	1	1.8	36	
78.773	8.3	1.62	1	7	+0.4	1	1.8	36	
78.784	7.0	1.80	1	7	+0.2	1	1.5	36	
78.776	7.5	1.69	3n	1.7		36-Inch			

2729 HO 504 03 44.6 +35 51

81.015	194.6	1.16	2	6	-0.1	4	0.2	26	
81.095	193.3	1.18	2	5	+0.1	3	0.2	26	
81.100	191.1	1.17	2	6	-0.3	3	0.2	26	
81.070	193.0	1.17	3n	0.2		26-Inch			

2730 BU 880 03 44.6 +32 10

78.064	12.2	0.57	2	6	-0.1	3	0.2	26	
78.083	12.9	0.62	2	5	-0.1	3	0.2	26	
78.081	12.1	0.55	2	6	0.0	4	0.2	26	
78.081	12.4	0.58	3n	0.2		26-Inch			

2745 A 1828 03 45.0 +05 04

78.108	28.2	0.21	1	6	-0.1	3	0.1	26	
78.113	25.5	0.18	2	6	0.0	3	0.0	26	
78.127	30.3	0.21	2	6	+0.2	3	0.0	26	
78.116	28.0	0.20	3n	0.0		26-Inch			

RST 2320 03 45.2 -16 47

84.773	91.5	0.66	2	5	+0.3	3	0.2	60	
84.787	88.9	0.58	2	7	+0.3	3	0.2	60	
84.790	92.0	0.52	2	7	0.0	3	0.4	60	
84.780	90.8	0.59	3n	0.3		60-Inch			

2755 BU 536 03 46.2 +24 12

78.108	186.1	0.77	1	6	0.0	3	1.0	26	
78.113	183.0	0.82	1	6	+0.1	3	1.2	26	
78.127	182.1	0.68	1	6	+0.2	3	1.2	26	
85.080	180.1	0.93	2	7	0.0	3	1.5	26	
86.044	183.5	0.79	1	7	-0.2	3	1.0	26	
86.058	178.2	0.79	2	6	0.0	3	1.0	26	
78.116	183.7	0.76	3n	1.1		26-Inch			
85.727	180.6	0.84	3n	1.2		26-Inch			

Wierzbinski, 1956: +13.7, +0.45;
+26.1, +0.65.
This orbit fails entirely.

COU 694 03 46.7 +27 29

87.103	133.7	2.25	2	5	-0.2	3	0.2	26	
87.112	133.0	2.47	2	5	0.0	3	0.3	26	
87.114	132.7	2.46	2	7	+0.2	3	0.2	26	
87.110	133.1	2.39	3n	0.2		26-Inch			

2776 BU 1184 03 48.3 +22 23

77.106	272.8	0.48	2	5	0.0	3	0.2	26
77.108	272.1	0.48	2	7	+0.1	3	0.3	26
77.111	273.9	0.40	2	5	0.0	3		26
77.119	276.2	0.46	2	4	-0.3	3	0.3	26
77.111	273.8	0.46	4n		0.3		26-Inch	

2768 HU 546 03 48.4 +52 03

79.885	167.5	0.24	2	6	0.0	4	0.3	26
80.095	160.3	0.27	2	5	-0.1	3		26
80.104	158.8	0.24	2	5	-0.2	3		26
80.028	162.2	0.25	3n		0.3		26-Inch	

Heintz, 1965: -3.4, +0.01.

2782 BU 1105 03 48.6 +24 10

78.108	235.7	0.24	2	6	0.0	3	1.0	26
78.113	236.3	0.18	2	6	+0.1	3	0.8	26
78.127	233.4	0.20	2	6	+0.3	3	0.8	26
78.116	235.1	0.21	3n		0.9		26-Inch	

2765 STT 62 03 48.9 +64 45

78.932	301.0	0.30	2	6	0.0	3	0.2	26
79.885	303.3	0.28	2	5	0.0	4	0.2	26
80.095	304.4	0.31	2	5	-0.3	3	0.2	26
79.637	302.9	0.30	3n		0.2		26-Inch	

Heintz, 1973: -1.2, -0.01.

2785 A 831 03 48.9 +11 42

77.106	6.0	0.42	1	5	0.0	3	1.2	26
77.108	8.3	0.42	4	6	+0.1	3	1.8	26
77.133	6.8	0.41	1	7	+0.3	3	1.2	26
77.116	7.0	0.42	3n		1.4		26-Inch	

2787 HO 324 03 49.0 +14 58

77.106	333.0	1.13	2	6	+0.1	3	0.3	26
77.108	334.1	1.03	1	7	+0.2	3	0.1	26
77.111	334.6	1.02	2	5	-0.1	3	0.2	26
77.119	332.4	0.97	2	4	-0.2	3	0.2	26
77.111	333.5	1.04	4n		0.2		26-Inch	

2790 A 1829 03 49.0 +06 48

77.106	313.1	1.76	2	5	+0.2	3	1.5	26
77.108	304.7	1.80	2	7	+0.3	3	1.4	26
77.111	308.9	1.62	2	4	+0.5	3	1.5	26
77.133	311.1	1.64	2	7	+0.4	3	1.4	26
77.114	309.4	1.70	4n		1.4		26-Inch	

2789 A 832 03 49.1 +11 39

77.106	112.1	1.85	2	6	+0.1	3	0.8	26
77.108	113.3	1.82	2	7	+0.2	3	0.2	26
77.111	111.8	1.79	2	5	+0.1	3	0.3	26
77.133	111.4	1.75	2	8	+0.4	3	0.3	26
77.114	112.2	1.80	4n		0.4		26-Inch	

2799 STT 65 03 50.3 +25 35

76.119	207.5	0.62	1	4	0.0	3	0.4	26
76.133	202.1	0.68	1	7	+0.5	3	0.6	26
76.147	205.3	0.60	1	3	+0.6	3	0.5	26
77.946	208.3	0.67	1	6	+0.3	3	0.3	26
81.015	208.7	0.56	2	6	-0.1	4	0.4	26
81.095	209.6	0.75	2	7	+0.1	3	0.2	26
81.100	208.5	0.59	2	8	+0.2	3	0.3	26
85.080	205.6	0.47	2	8	0.0	3	0.0	26
85.140	207.8	0.45	2	7	+0.1	3	0.3	26
86.044	209.5	0.49	2	6	-0.3	3	0.2	26
86.058	206.7	0.45	2	7	0.0	3	0.5	26
76.586	205.8	0.64	4n		0.4		26-Inch	
81.070	208.9	0.63	3n		0.3		26-Inch	
85.580	207.4	0.46	4n		0.3		26-Inch	

Wierzbinski, 1957: -0.6, -0.02;
+1.0, +0.02;
-2.0, -0.04.

2800 ES 1137 03 51.1 +49 40

81.015	109.0	0.69	2	6	0.0	4	0.0	26
81.800	113.6	0.55	2	7	-0.3	3	0.3	26
81.842	123.9	0.51	2	5	-0.2	4	0.2	26
81.319	115.5	0.58	3n		0.2		26-Inch	

Closing in.

KUI 15 03 51.9 +06 33

85.138	208.1	0.61	2	5	+0.3	3	0.4	26
85.140	209.5	0.63	4	8	+0.2	3	0.4	26
86.044	209.9	0.68	2	6	0.0	3	0.0	26
86.063	207.2	0.61	2	6	0.0	3	0.4	26
85.596	208.6	0.64	4n		0.3		26-Inch	

2823 OL 1 03 51.9 -13 45

78.770	280.5	3.24	2	5	0.0	1	0.3	36
78.773	280.9	3.21	2	7	+0.3	1	0.2	36
78.781	278.7	3.16	2	5	+0.4	1	0.3	36
78.775	280.0	3.20	3n		0.3		36-Inch	

2828 A 1293 03 53.7 +53 17

81.015	258.1	0.33	2	6	0.0	4	0.2	26
81.100	251.4	0.41	2	7	-0.3	3	0.6	26
81.842	251.2	0.33	2	5	-0.2	4	0.4	26
81.319	253.6	0.36	3n		0.4		26-Inch	

Ling, 1987: +1.6, -0.04.

2856 A 461 03 54.4 -06 49

84.790	226.0	0.17	2	7	0.0	3	0.0	60	
84.790	226.0	0.17	1n		0.0			60-Inch	

RST 3389 03 55.0 -10 58

78.770	103.7	0.55	2	5	+0.2	1	0.2	36	
78.773	109.4	0.45	2	6	+0.4	1	0.2	36	
78.784	100.5	0.42	2	7	+0.1	1	0.2	36	
78.789	102.9	0.52	2	7	+0.2	1	0.5	36	
78.779	104.1	0.48	4n		0.3			36-Inch	

RST 3390 03 55.0 -14 02

84.790	151.6	0.73	2	7	0.0	3	0.2	60	
84.790	151.6	0.73	1n		0.2			60-Inch	

2864 BU 85 03 55.4 +17 38

86.830	216.3	3.97	2	5	0.0	3	2.0	26	
87.095	217.0	3.81	2	5	0.0	3	3.5	26	
87.098	217.4	4.02	2	7	0.0	3	1.8	26	
87.008	216.9	3.93	3n		2.4			26-Inch	

2873 BU 263 03 56.5 +33 11

78.064	98.2	0.71	2	6	-0.1	3	0.3	26	
78.083	97.6	0.65	2	5	-0.2	3	0.2	26	
78.097	95.8	0.70	2	7	0.0	4	0.2	26	
78.081	97.2	0.69	3n		0.2			26-Inch	

2885 A 463 03 56.5 -06 24

84.790	339.0	0.11	2	7	+0.1	3	0.0	60	
84.790	339.0	0.11	1n		0.0			60-Inch	

Substantial orbital motion, but the lack of any measures since 1961 makes interpretation impossible.

2889 HU 24 03 57.6 +11 30

78.064	270.1	1.37	2	6	0.0	3	1.0	26	
78.083	269.2	1.42	2	5	+0.1	3	1.6	26	
78.097	269.5	1.45	4	6	0.0	4	2.4	26	
78.081	269.6	1.41	3n		1.7			26-Inch	

HEI 32 03 57.8 +15 15

86.058	335.1	1.34	2	7	0.0	3	0.2	26	
86.063	335.0	1.53	2	6	0.0	3	0.1	26	
86.085	332.5	1.34	2	6	-0.5	3	0.3	26	
86.069	334.2	1.40	3n		0.2			26-Inch	

2890 J 306 03 57.9 +21 58

86.830	87.8	2.52	2	5	0.0	3	0.2	26	
87.095	87.2	2.37	2	5	-0.2	3		26	
87.098	89.5	2.14	2	7	0.0	3	0.0	26	
87.008	88.2	2.34	3n		0.1			26-Inch	

2902 HU 25 03 58.4 +12 07

78.064	341.2	0.63	1	6	0.0	3	0.4	26	
78.083	342.9	0.71	1	5	0.0	3	0.4	26	
78.097	340.0	0.63	1	6	0.0	4	0.7	26	
87.103	345.7	0.73	2	5	-0.2	3	0.4	26	
87.112	342.3	0.75	2	5	0.0	3		26	
87.114	342.0	0.79	2	7	0.0	3	0.4	26	
78.081	341.4	0.66	3n		0.5			26-Inch	
87.110	343.3	0.76	3n		0.4			26-Inch	

2911 HU 27 03 59.0 +09 47

86.058	298.1	0.25	2	7	0.0	3	0.2	26	
86.063	293.3	0.29	2	7	0.0	3		26	
86.085	294.7	0.28	2	6	-0.5	3	0.0	26	
86.069	295.4	0.27	3n		0.1			26-Inch	

2922 B 61 03 59.5 -28 47

84.773	204.6	0.43	2	6	+0.2	3		60	
84.776	199.4	0.31	2	6	0.0	3	0.2	60	
84.787	202.6	0.33	2	7	+0.2	3	0.2	60	
84.779	202.2	0.36	3n		0.2			60-Inch	

2921 HU 29 03 59.8 -10 19

78.792	306.4	0.37	2	7	+0.2	1	0.1	60	
78.800	308.4	0.33	2	6	0.0	1	0.3	60	
78.796	307.4	0.35	2n		0.2			60-Inch	

2928 A 1937 04 00.8 +05 05

78.800	180.0	0.11	1	6	+0.3	1		60	
78.800	180.0	0.11	1n					60-Inch	

Newburg, 1968: -6.3, +0.03.

2941 AG 77 04 02.0 +23 21

77.106	352.9	1.60	1	5	+0.2	3	0.5	26	
77.108	350.4	1.62	1	7	+0.2	3	0.3	26	
77.119	352.5	1.67	1	5	0.0	3	0.5	26	
77.111	351.9	1.63	3n		0.4			26-Inch	

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

2952 DAW 79 04 02.4 -28 31

78.770	51.5	0.46	2	5	+0.6	1	0.3	36
78.773	51.5	0.39	2	7	+0.6	1	0.2	36
78.784	51.4	0.33	2	7	+0.5	1	0.3	36
84.773	36.0	0.42	2	5	+0.3	3	0.4	60
84.776	31.6	0.30	2	6	+0.1	3	0.4	60
84.787	34.6	0.28	2	8	+0.2	3	0.2	60
78.776	51.5	0.39	3n		0.3		36-Inch	
84.779	34.1	0.33	3n		0.3		60-Inch	

Closing in.

2937 HU 210 04 02.7 +52 09

78.932	39.7	0.23	2	6	-0.1	3		26
81.100	39.7	0.25	2	7	-0.1	3	0.7	26
85.080	35.1	0.24	2	8	-0.1	3	0.0	26
81.704	38.2	0.24	3n		0.4		26-Inch	

If there was, indeed, a quadrant reversal in the unobserved years 1922-1971, then there has been a large change.

2950 A 1709 04 03.6 +42 11

80.104	227.2	0.95	2	5	-0.3	3	1.4	26
80.117	219.1	1.28	3	5	-0.2	3	1.8	26
80.120	223.3	1.06	2	6	-0.1	3	2.2	26
80.114	223.2	1.10	3n		1.8		26-Inch	

2959 STF 483 04 04.1 +39 31

79.885	84.0	1.06	2	5	0.0	4	1.4	26
80.095	78.2	0.93	2	6	-0.1	3	1.4	26
80.104	79.2	0.94	2	5	-0.1	3	1.6	26
80.117	80.8	1.17	2	5	+0.1	3	1.8	26
86.058	73.2	1.02	2	6	0.0	3	1.5	26
86.063	77.6	1.06	2	7	0.0	3	1.4	26
86.069	79.3	1.24	2	6	-0.5	3	1.6	26
87.098	72.4	1.04	2	8	0.0	3	1.4	26
80.050	80.6	1.02	4n		1.6		26-Inch	
86.322	75.6	1.09	4n		1.5		26-Inch	

Couteau, 1958: +3.8, +0.12; +6.5, +0.09.

2988 A 1295 04 06.1 -01 23

78.064	154.6	0.80	1	5	0.0	3	0.8	26
78.083	152.0	0.68	2	5	-0.1	3	0.6	26
78.097	151.4	0.73	1	6	0.0	4	1.5	26
78.081	152.7	0.74	3n		1.0		26-Inch	

2980 A 1710 04 06.5 +43 25

79.885	334.2	0.41	2	5	0.0	4	0.2	26
80.095	331.3	0.46	2	5	-0.2	3	0.0	26
80.104	335.4	0.45	2	5	-0.2	3	0.3	26
86.058	328.0	0.48	2	7	0.0	3	0.0	26
86.063	330.0	0.54	2	6	-0.1	3	0.0	26
86.085	328.1	0.50	2	7	-0.5	3	0.2	26
80.028	333.6	0.44	3n		0.2		26-Inch	
86.069	328.7	0.51	3n		0.1		26-Inch	

Heintz, 1982: +0.9, -0.01; +1.6, 0.00.

2996 A 2615 04 06.7 -04 22

78.064	251.8	0.89	4	5	+0.1	3	0.7	26
78.083	251.5	0.83	2	5	0.0	3	1.0	26
78.097	256.6	0.82	2	5	0.0	3	1.0	26
78.108	252.8	0.76	2	5	-0.1	3	1.2	26
78.088	253.2	0.82	4n		1.0		26-Inch	

3005 HWE 9 04 07.0 -28 49

84.784	175.5	1.52	2	5	+0.2	3	0.0	60
84.787	175.0	1.37	2	8	+0.2	3	0.0	60
84.790	175.3	1.36	2	7	+0.2	3	0.0	60
84.787	175.3	1.42	3n		0.0		60-Inch	

2995 STT 531 04 07.5 +38 05

79.885	11.6	1.56	2	5	+0.1	4	1.8	26
80.095	9.0	1.56	2	6	0.0	3	2.2	26
80.104	10.5	1.60	2	5	-0.1	3	2.4	26
86.058	5.3	1.83	2	7	+0.1	3	2.2	26
86.063	6.0	1.77	2	6	+0.1	3	1.6	26
86.085	4.0	1.93	2	7	-0.5	3	2.0	26
80.028	10.4	1.57	3n		2.1		26-Inch	
86.069	5.1	1.84	3n		1.9		26-Inch	

Costa, Docobo, 1985: -0.7, +0.05;
-0.9, +0.19.

3004 A 468 04 07.5 -06 57

78.770	198.9	0.81	1	5	+0.2	1	1.0	36
78.773	197.0	0.74	1	7	+0.3	1	0.8	36
78.784	199.7	0.76	1	7	0.0	1	1.2	36
78.776	198.5	0.77	3n		1.0		36-Inch	

3016 HU 607 04 08.9 +34 05

87.112	327.6	4.17	2	4	-0.1	3	3.0	26
87.114	328.9	4.61	2	7	0.0	3	2.8	26
87.113	328.2	4.39	2n		2.9		26-Inch	

3026 HU 301 04 09.1 +10 46

81.100	284.3	0.61	2	8	0.0	3	1.4	26
86.044	281.2	0.73	2	5	-0.2	3	1.4	26
86.058	286.6	0.50	2	5	+0.1	3	1.5	26
86.085	282.5	0.61	2	7	-0.4	3	1.8	26
84.822	283.6	0.61	4n	1.5			26-Inch	

3015 STF 3114 04 09.2 +40 10

77.119	162.2	2.77	1	4	0.0	3	2.5	26
77.946	162.5		2	5	+0.1	3	2.6	26
78.064	161.2	2.86	2	7	+0.1	3	2.6	26
78.083	161.5	2.82	2	6	0.0	3	2.4	26
77.803	161.8	2.82	3n	2.5			26-Inch	

3021 HO 326 04 09.2 +28 39

81.100	266.5	0.36	2	8	0.0	3	0.0	26
81.842	268.6	0.35	2	5	-0.2	4	0.3	26
85.080	262.6	0.34	2	7	+0.1	3	0.0	26
85.138	268.9	0.39	2	5	0.0	3	0.0	26
83.290	266.6	0.36	4n	0.1			26-Inch	

Costa, Morales, 1975: -5.7, -0.02.

3032 A 469 04 09.3 -07 56

78.784	273.5	0.16	2	7	+0.1	1	0.0	36
78.789	273.7	0.17	2	7	0.0	1	0.0	36
84.795	292.8	0.15	2	7	+0.2	4	0.0	36
84.798	290.3	0.16	2	5	-0.3	4	0.2	36
84.801	288.9	0.18	2	5	0.0	4	0.0	36
78.786	273.6	0.16	2n	0.0			36-Inch	
84.798	290.7	0.16	3n	0.0			36-Inch	

Baize, 1981: -0.2, +0.03; +2.5, +0.01.

3014 A 1296 04 09.6 +52 35

80.120	283.8	0.40	2	6	0.0	3	1.2	26
81.015	278.9	0.47	2	6	0.0	4	0.8	26
81.100	275.4	0.46	2	7	-0.2	3	1.0	26
80.745	279.4	0.44	3n	1.0			26-Inch	

3034 A 2914 04 09.6 -16 53

78.770	193.7	1.69	1	5	+0.2	1	0.1	36
78.773	194.8	1.61	2	7	+0.3	1	0.0	36
78.781	195.3	1.53	2	4	+0.3	1	0.2	36
78.775	194.6	1.61	3n	0.1			36-Inch	

FIN 86 04 09.9 -52 50

78.792	17.7	0.26	1	5	+0.2	1	0.1	60
78.800	20.7	0.21	1	6	+0.3	1	0.2	60
78.796	19.2	0.24	2n	0.2			60-Inch	

Substantial decrease in separation.

2963 STF 460 04 10.1 +80 41

81.842	116.9	0.75	2	4	-0.2	4	0.8	26
85.080	117.4	0.78	2	7	0.0	3	0.8	26
85.138	122.1	0.84	2	5	+0.3	3	1.0	26
84.020	118.8	0.79	3n	0.9			26-Inch	

Baize, 1958: +3.1, +0.05.

3028 A 833 04 10.7 +60 22

80.120	0.5	2.69	2	6	0.0	3	2.5	26
81.015	357.6	2.57	2	6	+0.1	4	3.5	26
81.095	3.0	2.62	1	6	0.0	3	2.8	26
80.743	0.4	2.63	3n	2.9			26-Inch	

3041 A 2801 04 10.8 -04 52

78.792	5.9	0.16	1	7	0.0	1	0.0	60
78.800	4.8	0.17	1	6	0.0	1	0.0	60
84.787	20.4	0.14	2	8	+0.3	3	0.2	60
84.790	23.2	0.15	2	6	0.0	3	0.1	60
78.796	5.4	0.16	2n	0.0			60-Inch	
84.788	21.8	0.14	2n	0.2			60-Inch	

Muller, 1954: -2.7, -0.05; - 4.6, -0.01.
Zulevic, 1972: -2.5, -0.03; -11.6, +0.01.
Baize, 1985: -0.5, -0.03; - 6.4, 0.00.

3038 BU 546 04 11.5 +41 52

81.842	43.4	0.92	2	5	-0.2	4	0.0	26
85.080	45.6	0.99	2	8	0.0	3	0.0	26
85.140	45.7	0.90	2	8	0.0	3	0.0	26
84.021	44.9	0.94	3n	0.0			26-Inch	

COU 703 04 12.4 +23 35

78.932	86.3	1.03	2	7	0.0	3	1.8	26
80.095	85.0	0.88	2	6	0.0	3	1.3	26
80.104	88.0	0.95	2	5	+0.1	3	1.8	26
79.710	86.4	0.95	3n	1.6			26-Inch	

3069 HWE 10 04 13.0 -28 33

78.792	47.9	1.83	2	6	+0.1	1	0.2	60
78.800	48.1	1.84	2	6	+0.2	1	0.2	60
78.796	48.0	1.84	2n	0.2			60-Inch	

3062 A 1711 04 13.9 +42 35

81.842	98.4	0.56	2	4	-0.1	4	1.2	26
85.080	91.8	0.61	2	7	0.0	3	1.0	26
85.140	93.3	0.57	2	8	+0.1	3	1.0	26
84.021	94.5	0.58	3n	1.1			26-Inch	

3072 BU 547 04 13.9 +09 16

86.830	346.1	1.78	1	4	0.0	3	2.0	26
87.095	344.1	1.37	2	5	0.0	3	2.5	26
87.098	350.1	1.24	1	7	-0.1	3	1.8	26
87.103	348.8	1.44	4	5	-0.3	3	2.5	26
87.032	347.3	1.46	4n		2.2		26-Inch	

BRT 2853 04 13.9 -25 00

84.790	172.0	2.97	2	7	+0.2	3	0.2	60
84.790	172.0	2.97	1n		0.2		60-Inch	

3076 A 2617 04 14.1 -12 09

78.770	327.9	2.04	1	5	+0.2	1	1.5	36
78.784	327.8	1.98	2	8	0.0	1	1.4	36
78.787	328.5	1.93	2	5	+0.4	1	1.4	36
78.780	328.1	1.98	3n		1.4		36-Inch	

RST 2338 04 14.1 -46 08

78.792	150.4	0.24	2	6	+0.3	1	0.4	60
78.800	155.2	0.21	2	5	+0.3	1	0.5	60
78.796	152.8	0.22	2n		0.4		60-Inch	

3082 STT 77 04 15.9 +31 42

78.932	272.6	0.67	2	6	-0.1	3	0.1	26
79.885	273.7	0.70	2	5	0.0	4	0.2	26
80.057	273.5	0.67	2	3	-0.2	3		26
80.095	271.2	0.71	2	6	0.0	3	0.1	26
86.830	276.2	0.68	2	4	0.0	3		26
87.095	277.0	0.63	2	5	-0.1	3	0.2	26
87.098	276.7	0.68	2	7	0.0	3	0.0	26
87.103	277.9	0.68	2	5	-0.3	3	0.3	26
79.742	272.8	0.69	4n		0.1		26-Inch	
87.032	277.0	0.67	4n		0.2		26-Inch	

Scardia, 1983: +0.5, -0.05; +0.4, -0.05.
Starikova, 1983: +0.6, -0.04; +0.3, -0.03.

GLE 1 04 16.3 -60 57

84.773	101.9	0.33	2	5	+0.2	3	1.0	60
84.776	101.4	0.28	2	6	+0.1	3	0.5	60
84.784	105.0	0.32	2	4	+0.2	3	0.4	60
84.778	102.8	0.31	3n		0.6		60-Inch	

Rapid direct motion.
Erceg, 1984: +2.1, -0.09.

3102 HO 328 04 17.0 +19 41

77.106	19.4	0.25	1	6	+0.1	3	0.0	26
77.108	18.1	0.23	3	7	0.0	4	0.4	26
77.133	16.0	0.19	1	8	+0.2	4	0.5	26
78.108	24.1	0.27	2	6	0.0	3	0.3	26
78.113	17.6	0.24	2	6	-0.1	3	0.6	26
78.127	17.1	0.25	2	6	0.0	3	0.8	26
77.116	17.8	0.22	3n		0.3		26-Inch	
78.116	19.6	0.25	3n		0.6		26-Inch	

Heintz, 1978: -3.8, 0.00; 0.0, +0.01.

3107 J 894 04 17.3 +24 54

87.112	15.2	3.02	2	4	-0.1	3		26
87.114	13.6	2.95	1	7	0.0	3	0.0	26
87.113	14.4	2.98	2n		0.0		26-Inch	

3108 A 2350 04 17.5 +19 12

78.113	133.2	0.53	2	6	+0.1	3	1.8	26
78.127	136.9	0.55	3	5	0.0	3	1.8	26
78.149	135.9	0.45	2	6	+0.3	3	2.0	26
78.130	135.3	0.51	3n		1.9		26-Inch	

3098 STF 511 04 17.9 +58 47

80.095	108.0	0.40	2	5	0.0	3	0.3	26
80.104	112.2	0.46	2	5	-0.2	3	0.4	26
80.117	112.8	0.41	2	5	-0.6	3	0.4	26
80.120	109.0	0.46	2	6	-0.5	3	0.4	26
80.109	110.5	0.43	4n		0.4		26-Inch	

Heintz, 1969: +4.1, +0.03.

3114 STF 520 04 18.3 +22 49

76.703	198.8	0.17	2	7	0.0	4	0.0	26
76.966	204.1	0.14	2	6	-0.2	4	0.0	26
77.106	220.9	0.19	2	6	+0.2	3	0.0	26
77.108	212.6	0.15	3	7	+0.1	4	0.0	26
80.104	216.4	0.24	2	5	0.0	3	0.0	26
80.120	216.3	0.20	2	5	-0.1	3	0.0	26
81.015	226.5	0.22	2	6	0.0	4	0.0	26
81.095	229.3	0.22	2	6	0.0	3	0.0	26
86.058	237.6	0.33	2	6	0.0	3	0.0	26
86.063	237.3	0.34	2	6	0.0	3	0.0	26
86.085	236.0	0.31	2	7	-0.3	3	0.0	26
87.098	237.3	0.33	2	7	0.0	3	0.0	26
76.971	209.1	0.16	4n		0.0		26-Inch	
80.584	222.1	0.22	4n		0.0		26-Inch	
86.326	237.1	0.33	4n		0.0		26-Inch	

Heintz, 1982: +6.3, +0.02; -2.7, +0.01;
-4.1, +0.02.

3125 B 687 04 18.6 -19 23

84.787	261.1	0.26	2	5	+0.3	3	0.3	60	
84.790	259.6	0.24	2	7	+0.2	3	0.3	60	
84.788	260.4	0.25	2n		0.3			60-Inch	

3116 A 1939 04 18.7 +04 45

81.100	288.4	0.73	2	8	0.0	3	1.6	26	
81.100	288.4	0.73	1n		1.6			26-Inch	

3135 STT 79 04 19.9 +16 32

78.083	78.8	0.36	2	6	-0.1	3	1.8	26	
78.097	81.8	0.28	2	7	-0.1	3	1.5	26	
78.108	79.1	0.37	2	6	0.0	3	1.6	26	
78.113	81.5	0.34	2	7	-0.1	3	1.4	26	
81.100	94.6	0.28	2	8	0.0	3	1.3	26	
78.100	80.3	0.34	4n		1.6			26-Inch	
81.100	94.6	0.28	1n		1.3			26-Inch	

Docobo, Costa, 1985: +1.0, -0.10;
+1.5, -0.03.

3159 BU 744 04 21.5 -25 44

84.795	322.5	0.63	2	8	+0.2	4	0.3	36	
84.798	323.1	0.50	2	5	-0.3	4	0.2	36	
84.801	324.5	0.52	2	5	0.0	4	0.2	36	
84.798	323.4	0.55	3n		0.2			36-Inch	

van den Bos, 1951: -9.7, 0.00.

3147 STF 522 04 22.5 +51 36

77.111	33.1	1.34	2	5	-0.2	3	0.1	26	
77.119	33.3	1.40	2	4	-0.2	3	0.1	26	
77.946	32.6	1.21	2	5	0.0	3	0.0	26	
78.097	32.8	1.52	2	7	-0.1	3	0.0	26	
77.568	33.0	1.37	4n		0.0			26-Inch	

3169 STT 82 04 22.8 +15 03

76.728	0.8	1.42	1	4	0.0	4	1.8	26	
76.966	359.4	1.43	1	6	-0.1	4	1.6	26	
77.106	0.2	1.43	1	6	+0.2	3	1.4	26	
77.111	1.4	1.23	4	5	-0.2	3	1.5	26	
77.119	0.7	1.17	1	5	-0.1	3	1.5	26	
81.842	0.2	1.29	3	4	-0.2	4	1.5	26	
85.080	355.8	1.41	2	7	+0.2	3	1.3	26	
85.138	355.1	1.34	2	6	+0.1	3	1.6	26	
85.140	354.2	1.51	1	8	0.0	3	1.2	26	
77.006	0.5	1.34	5n		1.6			26-Inch	
84.300	356.3	1.39	4n		1.4			26-Inch	

Heintz, 1969: -0.8, -0.06; -0.5, -0.01.

3174 STF 535 04 23.3 +11 23

76.728	298.4	1.25	2	4	+0.1	4	1.4	26	
76.966	296.8	1.33	2	5	-0.1	3	1.0	26	
77.106	295.7	1.24	2	6	+0.2	3	0.8	26	
77.119	296.0	1.16	2	4	0.0	3	0.8	26	
86.830	289.8	1.25	2	5	-0.1	3	0.8	26	
87.095	289.3	1.21	2	5	-0.1	3	0.6	26	
87.098	291.5	1.23	2	8	0.0	3	0.7	26	
87.103	290.0	1.23	2	5	-0.3	3	0.8	26	
76.980	296.7	1.24	4n		1.0			26-Inch	
87.032	290.2	1.23	4n		0.7			26-Inch	

Popovic, 1982: +2.3, +0.09; +3.1, +0.15.

3172 STT 80 04 23.6 +42 26

79.885	162.8	0.32	2	7	0.0	4	0.6	26	
80.095	159.1	0.43	2	5	0.0	3	0.4	26	
80.104	162.4	0.44	2	5	-0.2	3	0.3	26	
86.058	156.1	0.33	2	7	0.0	3	0.4	26	
86.063	157.6	0.36	2	7	0.0	3	0.4	26	
86.085	161.1	0.36	2	7	-0.3	3	0.4	26	
80.028	161.4	0.40	3n		0.4			26-Inch	
86.069	158.3	0.35	3n		0.4			26-Inch	

3182 HU 304 04 23.9 +09 28

77.946	63.1	0.28	2	6	0.0	3	0.0	26	
78.083	56.6	0.27	2	6	-0.1	3	0.2	26	
78.097	62.6	0.23	2	7	0.0	3	0.2	26	
78.108	59.1	0.28	2	5	0.0	3	0.0	26	
81.842	67.7	0.24	2	5	-0.2	4	0.0	26	
85.080	77.6	0.20	2	7	+0.2	3		26	
85.138	82.9	0.20	2	6	+0.2	3		26	
85.140	75.4	0.15	2	8	0.0	4	0.0	26	
78.059	60.4	0.26	4n		0.1			26-Inch	
84.300	75.9	0.20	4n		0.0			26-Inch	

van den Bos, 1951: +4.5, -0.02;
+3.6, -0.01.
Starikova, 1985: +4.9, -0.02;
+2.8, 0.00.

3191 BU 1235 04 24.5 +22 45

76.966	54.5	0.32	2	5	0.0	4	0.0	26	
77.106	60.8	0.34	2	6	+0.2	3	0.3	26	
77.108	61.8	0.29	2	7	0.0	4	0.2	26	
77.060	59.0	0.32	3n		0.2			26-Inch	

COU 565 04 25.4 +19 42

86.085	147.4	0.54	2	7	-0.3	3	0.0	26	
87.095	148.2	0.57	2	5	0.0	3	0.0	26	
87.098	148.3	0.60	2	7	0.0	3	0.0	26	
87.103	148.2	0.61	2	5	-0.1	3		26	
86.845	148.0	0.58	4n		0.0			26-Inch	

	SLR 6		04 25.5 -53 06					
84.773	103.0	0.97	2	5	+0.2	3	1.3	60
84.784	102.2	0.95	2	3	+0.3	3		60
84.790	100.0	0.86	2	5	+0.4	3	1.2	60
84.782	101.7	0.93	3n		1.2		60-Inch	

3214	BU 403		04 25.6 -02 13					
78.932	92.8	1.17	2	7	-0.2	3	1.0	26
80.120	92.3	1.34	2	5	-0.1	3	1.8	26
81.095	93.6	1.32	2	5	0.0	3	1.8	26
80.049	92.9	1.28	3n		1.5		26-Inch	

3210	BU 1185		04 25.8 +18 52					
75.884	23.8	0.25	1	8	-0.1	3	0.6	26
77.108	21.3	0.22	1	7	+0.1	4	0.6	26
77.133	21.8	0.25	3	8	0.0	4	0.8	26
76.708	22.3	0.24	3n		0.7		26-Inch	

Heintz, 1969: - 1.1, 0.00.
Tokovinen, 1986: +10.6, +0.06.

3221	HU 1369		04 25.8 -28 45					
84.795	307.2	0.28	2	8	+0.2	4	0.2	36
84.798	307.2	0.28	2	6	-0.2	4	0.0	36
84.801	309.0	0.30	2	4	+0.3	4		36
84.798	307.8	0.29	3n		0.0		36-Inch	

	WOR 15		04 26.8 +12 40					
78.083	348.3	0.46	1	6	-0.1	3	0.0	26
78.097	345.1	0.40	1	7	0.0	3	0.0	26
78.108	346.2	0.46	1	6	0.0	3	0.3	26
78.113	345.6	0.57	1	7	-0.1	3	0.3	26
86.058	338.9	0.44	3	7	+0.1	3	0.2	26
86.063	329.9	0.55	2	6	0.0	3		26
86.085	336.3	0.44	2	7	-0.2	3	0.2	26
78.100	346.3	0.47	4n		0.2		26-Inch	
86.069	335.0	0.48	3n		0.2		26-Inch	

This M-dwarf Hyad has completed about 60 degrees of its orbit. A measure by Heintz must belong to another pair.

3230	BU 311		04 26.9 -24 05					
78.784	114.8	0.45	2	6	+0.5	1	0.2	36
78.787	117.9	0.31	2	4	+0.3	1		36
78.789	120.1	0.39	2	8	+0.3	1	0.2	36
84.795	117.6	0.41	2	7	+0.3	4	0.2	36
84.798	123.7	0.38	2	7	+0.2	4	0.1	36
84.801	118.6	0.40	2	5	0.0	4	0.2	36
78.787	117.6	0.38	3n		0.2		36-Inch	
84.798	120.0	0.40	3n		0.2		36-Inch	

Horeschi, 1957: +2.7, -0.14; -0.5, -0.18.
Scardia, 1982 (1): +3.8, -0.14;
+1.0, -0.18.
(2): +3.7, -0.12;
+0.1, -0.14.

3228	BU 1186		04 27.5 +11 12					
78.083	124.8	0.20	2	5	0.0	3	2.0	26
78.113	130.5	0.21	3	6	-0.1	3	2.2	26
78.127	127.5	0.21	1	5	-0.1	3	1.8	26
78.149	136.4	0.26	2	6	0.0	3	2.2	26
78.118	129.8	0.22	4n		2.0		26-Inch	

3241	I 413		04 27.5 -24 28					
78.784	281.9	0.32	2	7	+0.4	1	0.3	36
78.789	288.1	0.33	2	7	+0.4	1	0.3	36
78.786	285.0	0.32	2n		0.3		36-Inch	

3247	BU 184		04 27.9 -21 31					
78.770	251.3	1.77	2	6	+0.4	1	0.2	36
78.773	253.3	1.66	2	7	+0.3	1	0.3	36
78.781	251.9	1.73	2	4	+0.1	1	0.2	36
78.775	252.2	1.72	3n		0.2		36-Inch	

3248	HU 1080		04 29.0 +16 09					
77.108	268.0	0.23	2	7	+0.1	4	0.5	26
77.133	268.2	0.22	2	8	+0.1	4	0.5	26
77.169	264.3	0.22	2	8	+0.6	3	0.6	26
77.137	266.8	0.22	3n		0.5		26-Inch	

van den Bos, 1956: +2.8, -0.01.

3264	STF 554		04 30.1 +15 38					
86.830	17.3	1.59	4	5	-0.1	3	1.3	26
87.095	15.6	1.57	2	5	-0.1	3	2.0	26
87.098	16.5	1.69	1	7	0.0	3	1.6	26
87.103	16.6	1.61	1	5	-0.1	3	2.0	26
87.032	16.5	1.62	4n		1.7		26-Inch	

Kuiper, 1937: +0.7, -0.17.
Baize, 1980: -2.0, -0.06.

	B 1937		04 30.3 -17 47					
78.789	110.4	0.16	2	8	0.0	1		36
78.789	110.4	0.16	1n				36-Inch	

Considerable retrograde motion.

	I 1488		04 31.3 -42 27					
78.792	183.7	0.23	2	6	+0.1	1	0.0	60
78.800	186.6	0.20	2	6	+0.2	1	0.0	60
78.796	185.2	0.22	2n		0.0		60-Inch	

RST 2347 04 31.8 -24 06

78.770	341.2	0.23	2	5	+0.4	1			36
78.773	340.4	0.20	1	8	+0.3	1	0.2		36
78.784	335.3	0.20	2	7	+0.3	1			36
78.776	339.0	0.21	3n		0.2				36-Inch

B 2092 04 34.0 -55 03

78.792	144.2	0.34	2	6	+0.3	1	0.5		60
78.800	146.2	0.32	2	6	+0.3	1			60
78.796	145.2	0.33	2n		0.5				60-Inch

Knipe, 1966: +5.8, +0.05.
Heintz, 1984: -0.2, +0.02.

3300 A 1714 04 34.4 +42 41

78.932	253.0	0.29	2	7	-0.2	3	0.4		26
80.095	255.0	0.34	2	5	0.0	3	0.3		26
80.104	255.5	0.34	2	4	-0.2	3	0.7		26
79.710	254.5	0.32	3n		0.5				26-Inch

3314 A 2034 04 34.7 +11 30

75.884	241.9	0.48	2	7	0.0	3	0.3		26
76.966	239.1	0.52	2	5	-0.1	4	0.7		26
77.106	245.1	0.50	2	4	+0.3	3	0.7		26
76.652	242.0	0.50	3n		0.6				26-Inch

3311 STF 562 04 34.8 +22 42

86.830	280.6	1.87	2	5	-0.1	3	3.5		26
87.095	283.9	1.90	2	5	0.0	3	3.0		26
87.103	284.8	1.93	2	5	-0.1	3	2.2		26
87.114	284.6	1.98	2	7	-0.1	3	2.8		26
87.036	283.5	1.92	4n		2.9				26-Inch

3303 HU 1082 04 34.9 +39 09

78.064	101.3	0.41	2	5	-0.1	3	0.3		26
78.083	103.4	0.37	2	6	0.0	3	0.4		26
78.097	102.6	0.34	2	6	+0.1	3	0.3		26
78.081	102.4	0.37	3n		0.3				26-Inch

Couteau, 1975: -7.3, -0.02.

3326 A 1840 04 36.1 +08 13

78.108	114.7	0.19	2	6	0.0	3	0.0		26
78.113	111.7	0.19	2	6	-0.1	3	0.0		26
78.149	117.3	0.18	2	6	-0.1	3	0.0		26
78.123	114.6	0.19	3n		0.0				26-Inch

Erceg, 1975: -4.1, +0.04.
Baize, 1987: -8.3, +0.01.

3329 STT 86 04 36.6 +19 45

81.842	17.9	0.44	2	5	-0.2	4	0.0		26
85.080	13.4	0.40	2	7	+0.1	3	0.0		26
85.138	18.6	0.50	2	5	+0.2	3	0.0		26
84.020	16.6	0.45	3n		0.0				26-Inch

3330 STF 567 04 36.7 +19 29

81.842	339.1	1.98	2	5	-0.2	4	0.3		26
85.080	339.7	2.09	2	8	+0.2	3			26
85.138	338.1	2.05	2	6	+0.2	3	0.2		26
84.020	339.0	2.03	3n		0.2				26-Inch

RST 3401 04 37.5 -09 51

78.784	330.6	0.22	2	7	0.0	1	0.0		36
78.789	333.0	0.17	2	8	0.0	1	0.2		36
78.786	331.8	0.20	2n		0.1				36-Inch

Heintz, 1979: +0.4, +0.02.

3332 A 1010 04 37.8 +44 42

78.932	345.3	0.47	2	6	-0.1	3	0.3		26
80.095	342.3	0.44	2	5	0.0	3	0.8		26
80.104	348.4	0.45	2	4	-0.1	3			26
79.710	345.3	0.45	3n		0.6				26-Inch

3338 STF 565 04 38.1 +42 07

77.119	166.1	1.25	1	4	0.0	3	1.7		26
77.946	170.8		2	5	-0.1	3	0.9		26
78.064	173.2	1.42	2	6	0.0	3	1.5		26
78.083	174.6	1.46	2	6	-0.1	3	1.2		26
77.803	171.2	1.38	3n		1.3				26-Inch

RST 4249 04 38.4 -05 24

84.787	48.2	0.40	2	7	+0.1	3	1.0		60
84.790	50.7	0.40	2	5	0.0	3	1.0		60
84.788	49.4	0.40	2n		1.0				60-Inch

3360 A 2035 04 38.7 +10 11

81.100	100.5	0.20	2	8	-0.1	3	0.0		26
86.058	107.7	0.26	2	6	0.0	3			26
86.063	106.8	0.24	2	6	-0.1	3			26
84.407	105.0	0.23	3n		0.0				26-Inch

3366 A 839 04 38.9 +00 11

81.100	299.3	2.09	2	8	-0.1	3	2.8		26
85.140	300.0	2.17	2	7	0.0	4	3.0		26
83.120	299.6	2.13	2n		2.9				26-Inch

	I 1489		04 39.5 -45 07			
84.795	252.2	0.20	2 7 +0.2	4	0.3	36
84.798	255.2	0.18	2 7 +0.3	4	0.4	36
84.801	255.6	0.18	2 5 -0.2	4		36
84.798	254.3	0.19	3n	0.4		36-Inch

Heintz, 1975: +25.2, 0.00.
Well ahead of the prediction.

	HJ 3683		04 40.3 -58 57			
83.154	271.3	3.01	2 5 +0.6	3	0.2	36
83.156	272.5	2.99	2 5 +0.8	3	0.1	36
83.155	271.9	3.00	2n	0.1		36-Inch

Valbousquet, 1981: +2.6, +0.18.

	WOR 17		04 40.6 -09 12			
78.770	282.3	1.20	2 5 +0.2	1	0.1	36
78.773	278.2	1.22	2 7 +0.3	1	0.2	36
78.781	280.8	1.16	2 4 0.0	1	0.2	36
78.784	280.1	1.25	2 7 0.0	1	0.1	36
83.148	290.7	0.85	2 7 +1.1	3	0.2	36
83.151	288.8	0.90	2 6 +1.5	3	0.2	36
83.154	288.3	0.95	2 6 +1.3	3	0.2	36
84.773	294.0	0.76	2 5 +0.1	3	0.2	60
84.784	296.4	0.76	2 6 +0.4	3	0.3	60
84.787	293.7	0.74	2 7 +0.2	3	0.0	60
84.790	292.3	0.76	2 5 +0.2	3	0.1	60
78.777	280.4	1.21	4n	0.1		36-Inch
83.151	289.3	0.90	3n	0.2		36-Inch
84.784	294.1	0.76	4n	0.0		60-Inch

Closing in and now showing rapid motion.

	FIN 88		04 40.8 -56 02			
78.792	25.6	1.80	1 7 +0.2	1	4.2	60
78.800	26.3	1.83	1 6 +0.1	1	4.0	60
78.796	26.0	1.82	2n	4.1		60-Inch

Increase in separation probable.

3383	STF 583		04 41.0 +00 58			
86.830	326.0	5.93	2 4 -0.1	3	1.0	26
87.095	326.7	5.43	2 4 0.0	3	0.6	26
87.103	326.6	5.66	2 5 -0.1	3	2.6	26
87.009	326.4	5.67	3n			26-Inch

Variable?

3387	A 2353		04 41.5 +16 44			
77.108	151.4	0.19	3 7 0.0	4	0.0	26
77.133	145.1	0.18	3 7 0.0	4	0.0	26
77.169	146.3	0.19	2 7 +0.5	4	0.0	26
77.137	147.6	0.19	3n	0.0		26-Inch

Appears to be in rapid motion, but the few measures since discovery preclude further conclusions at this time.

	B 1469		04 41.7 -52 19			
84.795	268.8	0.34	2 4 +0.3	4	0.7	36
84.798	262.2	0.31	2 7 +0.3	4	0.5	36
84.801	262.8	0.36	2 4 -0.1	4	0.3	36
84.798	264.6	0.34	3n	0.5		36-Inch

3390	STF 577		04 42.2 +37 31			
77.147	24.0	1.00	2 3 0.0	3	0.0	26
77.760	23.6	0.98	2 4 +0.1	3	0.0	26
77.946	20.9		2 5 -0.1	3	0.0	26
78.064	24.7	1.07	2 6 0.0	3	0.0	26
77.729	23.3	1.02	3n	0.0		26-Inch

Hock and Flinner, 1970: -0.4, -0.11.

3405	B 689		04 43.1 -22 20			
84.787	283.6	0.55	2 7 +0.3	3	1.0	60
84.790	283.5	0.51	2 5 +0.3	3	0.8	60
84.788	283.6	0.53	2n	0.9		60-Inch

3446	OL 2		04 46.2 -21 28			
84.795	226.2	4.26	2 6 +0.4	4	3.3	36
84.798	226.2	4.31	2 7 +0.4	4	2.5	36
84.801	226.4	4.31	2 5 +0.1	4	3.0	36
84.798	226.3	4.29	3n	2.9		36-Inch

No measures for 52 years.

3449	OL 3		04 46.5 -22 47			
78.770	57.7	1.73	2 5 +0.3	1	0.4	36
78.773	58.1	1.70	2 7 +0.3	1	0.7	36
78.781	58.9	1.66	2 5 0.0	1	0.7	36
78.775	58.2	1.70	3n	0.6		36-Inch

3450	HU 443		04 47.6 +22 11			
77.108	289.5	0.51	2 7 0.0	4	0.5	26
77.133	292.6	0.52	2 7 0.0	4	0.7	26
77.169	291.4	0.49	4 7 +0.5	4	0.7	26
77.137	291.2	0.51	3n	0.6		26-Inch

3447 A 1545 04 47.7 +40 14

78.149	96.5	0.31	2	6	0.0	3	2.2	26
80.117	97.8	0.36	2	5	-0.7	3	1.0	26
80.120	90.9	0.31	2	5	-0.3	3	1.4	26
79.462	95.1	0.33	3n	1.5			26-Inch	

3434 HU 612 04 47.8 +53 18

81.100	345.1	0.60	2	8	0.0	3	1.5	26
85.140	345.9	0.52	2	8	0.0	4	1.5	26
86.058	345.2	0.60	2	6	0.0	3	1.5	26
84.099	345.4	0.57	3n	1.5			26-Inch	

Heintz, 1979: -1.6, +0.05.

I 730 04 48.5 -52 38

78.781	92.2	1.23	2	5	+0.1	1	0.8	36
78.787	96.3	1.29	2	4	+0.1	1	1.0	36
78.789	90.7	1.27	2	8	+0.1	1	0.7	36
78.786	93.1	1.26	3n	0.8			36-Inch	

3460 STF 598 04 48.6 +17 49

86.830	316.3	9.40	2	5	-0.2	3	0.8	26
87.095	317.2	9.32	2	5	0.0	3	0.8	26
87.103	318.0	9.42	2	5	-0.2	3	1.6	26
87.009	317.2	9.38	3n	1.1			26-Inch	

I 342 04 49.6 -53 54

78.781	140.6	2.66	2	5	+0.2	1	0.7	36
78.787	139.4	2.63	2	4	+0.1	1	1.5	36
78.789	140.3	2.75	2	8	+0.2	1	0.4	36
83.159	139.3	2.74	2	4	+0.8	3	0.4	36
83.162	139.1	2.76	2	4	+0.8	3	0.8	36
84.784	137.6	2.80	2	4	+0.1	3	0.4	60
84.793	136.8	2.78	2	4	-0.6	3	0.4	60
78.785	140.1	2.68	3n	0.8			36-Inch	
83.160	139.2	2.75	2n	0.6			36-Inch	
84.788	137.2	2.79	2n	0.4			60-Inch	

3475 BU 883 04 51.2 +11 04

75.884	354.2	0.24	1	8	-0.1	3	0.0	26
76.016	357.4	0.17	1	5	0.0	3	0.0	26
77.108	9.5	0.23	1	7	0.0	4	0.0	26
77.133	10.6	0.19	1	8	0.0	4	0.0	26
80.172	41.0	0.28	2	7	+0.1	3	0.0	26
81.015	54.4	0.28	2	7	+0.1	4	0.0	26
81.095	53.9	0.25	2	6	+0.1	3	0.0	26
86.063	115.5	0.18	2	7	0.0	3		26
86.085	112.4	0.18	2	7	-0.3	3		26
87.098	131.2	0.17	2	7	-0.2	3		26
87.114	137.5	0.13	1	7	0.0	3		26
76.535	2.9	0.21	4n	0.0			26-Inch	
80.761	49.8	0.27	3n	0.0			26-Inch	
86.074	114.0	0.18	2n				26-Inch	
87.106	134.4	0.15	2n				26-Inch	

Heintz, 1969: 0.0, -0.03; + 1.3, 0.00;
-7.7, +0.02; -16.8, 0.00.

FIN 320 04 51.4 -34 54

78.781	78.5	0.23	2	4	+0.3	1		36
78.789	73.7	0.14	2	8	+0.2	1	0.0	36
78.785	76.1	0.18	2n	0.0			36-Inch	

Quadrant uncertain; however, there has been a large angular decrease.

3483 BU 552 04 51.8 +13 39

75.884	353.2	0.33	1	7	0.0	3	2.0	26
76.016	358.3	0.42	1	5	+0.1	3	2.5	26
76.966	1.6	0.25	1	6	0.0	4	2.0	26
77.108	5.4	0.26	1	7	0.0	4	2.5	26
77.133	2.0	0.35	1	7	+0.1	4	2.8	26
76.621	0.1	0.32	5n	2.4			26-Inch	

Heintz, 1984: +0.6, -0.02.
Starikova, 1985: -0.9, -0.03.

3484 STF 609 04 51.8 +01 15

78.083	73.3	2.78	2	6	-0.1	3	0.1	26
78.097	73.1	2.79	2	6	0.0	3	0.1	26
78.108	71.9	2.75	2	5	-0.1	3	0.2	26
78.096	72.8	2.77	3n	0.1			26-Inch	

3497 BU 316 04 52.7 -05 17

78.784	2.0	0.82	2	6	+0.2	1	0.1	36
78.787	4.8	0.86	1	5	+0.2	1	0.2	36
78.789	1.9	0.91	1	9	+0.3	1	0.2	36
78.787	2.9	0.86	3n	0.2			36-Inch	

3488 HU 819 04 52.9 +35 48

75.884	279.0	0.35	2	7	0.0	3	0.3	26
76.966	282.1	0.31	1	5	0.0	4	0.5	26
77.108	281.8	0.35	2	7	+0.1	4	0.4	26
76.653	281.0	0.34	3n	0.4			26-Inch	

3512 HU 32 04 53.6 -10 31

84.773	246.4	0.93	2	5	+0.1	3	0.1	60
84.784	245.8	0.94	2	5	+0.3	3	0.0	60
84.787	243.7	0.97	2	7	+0.2	3	0.0	60
84.781	245.3	0.95	3n	0.0			60-Inch	

3504 BU 1237 04 53.7 +23 33

86.830	56.8	4.76	2	5	-0.1	3	3.0	26
87.095	57.8	4.69	2	5	0.0	3	3.0	26
87.098	58.1	4.69	2	7	-0.2	3	2.5	26
87.103	60.0	4.55	2	5	-0.2	3	3.0	26
87.032	58.2	4.67	4n	2.9			26-Inch	

3490 HU 818 04 54.0 +56 03

78.149	73.9	0.37	2	6	0.0	3	0.3	26
78.932	76.0	0.43	2	6	-0.3	3	0.5	26
80.095	73.1	0.33	2	6	-0.2	3	0.5	26
79.059	74.3	0.38	3n		0.4			26-Inch

RST 5501 04 54.5 -03 13

78.097	50.5	0.25	2	7	0.0	3	0.0	26
78.108	49.5	0.29	2	5	0.0	3	0.0	26
78.113	55.6	0.27	2	6	-0.3	3	0.0	26
78.770	52.5	0.31	2	5	+0.2	1	0.0	36
78.773	53.3	0.32	2	7	+0.2	1	0.0	36
78.784	53.0	0.33	2	7	+0.2	1	0.0	36
84.795	43.5	0.27	2	8	+0.4	4	0.1	36
84.798	44.0	0.25	2	7	+0.3	4	0.2	36
84.801	42.5	0.29	2	6	0.0	4	0.0	36
78.106	51.9	0.27	3n		0.0			26-Inch
78.776	52.9	0.32	3n		0.0			36-Inch
84.798	43.3	0.27	3n		0.1			36-Inch

FIN 90 04 54.6 -60 24

78.792	218.2	1.04	1	6	+0.1	1	1.6	60
78.800	220.9	1.08	2	6	+0.1	1	1.2	60
78.796	219.6	1.06	2n		1.4			60-Inch

3517 STT 90 04 54.9 +08 36

87.103	338.7	1.90	2	5	-0.1	3	2.0	26
87.112	343.7	1.96	2	4	0.0	3		26
87.114	340.9	1.87	1	7	0.0	3	1.8	26
87.153	340.0	1.93	4	4	-0.2	3	1.8	26
87.172	342.0	1.97	4	4	0.0	3	1.8	26
87.131	341.1	1.93	5n		1.8			26-Inch

RST 4257 04 55.3 -03 51

84.795	330.4	0.21	2	7	+0.3	4	0.2	36
84.798	325.4	0.26	2	7	+0.4	4	0.0	36
84.801	330.9	0.26	2	4	+0.1	4		36
84.798	328.9	0.24	3n		0.1			36-Inch

Angular decrease.

3532 A 2623 04 55.3 -13 08

78.770	205.6	1.23	1	5	+0.3	1	1.5	36
78.773	206.3	1.24	2	6	+0.3	1	1.0	36
78.784	208.3	1.25	2	7	+0.3	1	0.8	36
78.776	206.7	1.24	3n		1.1			36-Inch

3520 HU 555 AB 04 56.3 +52 06

78.149	309.2	0.17	2	5	0.0	3	0.0	26
78.932	323.1	0.19	2	6	-0.2	3	0.0	26
80.095	315.9	0.19	2	5	0.0	3		26
80.120	309.7	0.19	2	5	-0.4	3		26
85.140	351.5	0.14	2	8	0.0	4	0.0	26
86.058	342.9	0.13	2	6	-0.1	3		26
86.063	351.2	0.19	2	7	-0.2	3		26
86.085	354.9	0.17	2	7	-0.4	3		26
79.324	314.5	0.19	4n		0.0			26-Inch
85.836	350.1	0.16	4n		0.0			26-Inch

Heintz, 1976: -16.9, +0.01; -6.5, -0.03.

STF 608 ABXC

78.149	115.2	4.54	2	5	+0.1	3	0.7	26
80.120	114.5	4.57	2	5	-0.3	3	1.0	26
79.135	114.8	4.56	2n		0.8			26-Inch

3555 HU 215 04 56.8 -10 57

84.784	292.6	0.61	2	5	+0.3	3	0.6	60
84.787	294.2	0.61	2	6	+0.2	3	0.6	60
84.790	292.9	0.70	2	6	+0.2	3	1.2	60
84.787	293.2	0.64	3n		0.8			60-Inch

3559 A 2625 04 57.1 -13 38

78.770	220.5	0.22	2	5	+0.5	1	0.0	36
78.773	217.8	0.17	2	6	+0.4	1		36
78.784	227.9	0.16	2	7	+0.4	1	0.0	36
78.776	222.1	0.18	3n		0.0			36-Inch

I 1611 04 57.3 -39 10

78.800	318.9	0.34	2	6	+0.2	1	0.2	60
78.800	318.9	0.34	1n		0.2			60-Inch

3558 A 2624 04 57.4 +00 59

78.932	128.1	0.20	2	5	0.0	3	0.0	26
81.095	116.0	0.26	2	5	0.0	3		26
81.100	114.6	0.20	2	7	-0.2	3	0.0	26
80.376	119.6	0.22	3n		0.0			26-Inch

3580 A 1551 04 59.8 +43 19

75.884	98.5	0.24	2	7	0.0	3	0.0	26
77.108	101.5	0.23	2	7	+0.2	4	0.1	26
77.133	100.3	0.16	2	7	+0.1	4	0.0	26
76.708	100.1	0.21	3n		0.0			26-Inch

3589 STT 92 05 00.3 +39 24

75.884	274.1	3.84	2	8	0.0	3	2.8	26	
77.119	274.4	3.70	2	4	-0.2	3	2.8	26	
77.147	275.2	3.81	2	3	0.0	3	3.0	26	
76.717	274.6	3.78	3n	2.9			26-Inch		

3596 STT 93 05 00.5 +05 06

85.080	247.7	1.10	2	7	0.0	3	0.5	26	
85.138	251.0	1.16	2	6	-0.1	3	1.2	26	
85.140	249.4	1.10	2	7	0.0	4	0.6	26	
85.119	249.4	1.12	3n	0.8			26-Inch		

Baize, 1980: +5.7, +0.14. This recent orbit gives rather poor representation.

3610 A 2629 05 01.1 -11 12

78.792	227.5	0.11	2	8	+0.3	1	0.0	60	
78.800	226.6	0.11	2	6	+0.2	1	0.0	60	
78.796	227.0	0.11	2n	0.0			60-Inch		

Appears to be in rapid motion.

3593 STF 619 05 01.3 +50 15

77.119	146.0	4.16	2	4	-0.2	3	0.0	26	
77.147	147.1	4.13	2	3	0.0	3	0.0	26	
77.760	146.6	4.18	2	5	-0.1	3	0.2	26	
78.064	146.9	4.23	2	5	-0.2	3	0.0	26	
77.523	146.6	4.18	4n	0.0			26-Inch		

3609 A 2041 05 01.4 +08 52

78.064	110.4	0.75	2	5	0.0	3	1.0	26	
78.083	106.2	0.75	2	6	-0.1	3	1.8	26	
78.097	105.6	0.81	2	6	0.0	3	1.4	26	
78.081	107.4	0.77	3n	1.4			26-Inch		

3614 HU 445 05 01.7 +20 50

80.095	271.3	0.37	2	6	-0.1	3	0.3	26	
80.104	275.3	0.36	2	5	-0.3	3	0.3	26	
80.117	274.3	0.34	2	5	-0.8	3	0.3	26	
80.120	273.6	0.38	2	5	-0.2	3	0.3	26	
80.109	273.6	0.36	4n	0.3			26-Inch		

Baize, 1957: +4.3, -0.05.
Scardia, 1986: +4.4, -0.02. Quadrant reversed. Not an improvement.

3628 A 1021 05 02.3 -00 53

80.095	60.6	0.56	2	4	0.0	3		26	
80.120	66.2	0.60	2	5	-0.2	3	0.0	26	
80.172	63.2	0.80	2	5	+0.3	3		26	
80.129	63.3	0.65	3n	0.0			26-Inch		

DON 91 05 02.5 -21 15

78.792	6.6	1.03	1	8	+0.2	1	2.0	60	
78.800	5.0	1.10	1	7	+0.3	1	2.5	60	
84.787	28.3	1.17	2	7	+0.4	3	2.4	60	
84.790	26.5	1.06	2	7	+0.2	3	1.8	60	
78.796	5.8	1.06	2n	2.2			60-Inch		
84.788	27.4	1.12	2n	2.1			60-Inch		

Heintz, 1978: -2.2, +0.11; +0.9, +0.09.

3641 BU 884 05 02.9 -12 26

84.773	191.8	0.58	2	5	+0.1	3	0.2	60	
84.784	192.5	0.54	2	5	+0.4	3	0.3	60	
84.787	194.0	0.53	2	6	+0.2	3	0.2	60	
84.781	192.8	0.55	3n	0.1			60-Inch		

No measures in 42 years. Angular decrease.

3652 A 2632 05 04.0 +02 57

77.760	126.3	0.85	2	4	0.0	3	0.0	26	
77.946	125.4		2	5	-0.2	3	0.0	26	
78.064	124.1	0.92	2	5	0.0	3	0.0	26	
78.083	121.9	0.84	2	5	-0.1	3	0.0	26	
77.963	124.4	0.87	3n	0.0			26-Inch		

JC 9 05 04.4 -35 29

83.145	309.9	3.22	2	5	+0.1	3	3.0	36	
83.148	309.1	3.24	2	8	+0.2	3	3.8	36	
83.146	309.5	3.23	2n	3.4			36-Inch		

COO 28 05 04.9 -40 34

83.145	239.3	1.17	2	5	+0.3	3	0.5	36	
83.148	243.2	1.36	2	7	+0.3	3	0.2	36	
83.151	240.3	1.27	2	7	+0.3	3	0.3	36	
83.148	240.9	1.27	3n	0.3			36-Inch		

3672 STT 95 05 05.5 +19 48

75.884	307.1	0.94	2	7	0.0	3	0.4	26	
76.966	306.4	0.90	2	5	-0.1	4	0.4	26	
77.106	306.2	0.89	2	5	-0.1	3	0.6	26	
77.119	306.3	0.79	2	5	-0.2	3	0.5	26	
85.162	306.4	0.92	2	5	-0.5	4	0.4	26	
85.179	305.3	0.88	2	5	0.0	3	0.5	26	
86.058	302.8	0.93	2	6	-0.1	3	0.3	26	
86.063	304.3	0.97	2	7	-0.2	3	0.6	26	
87.177	303.1	0.99	2	7	-0.1	3	0.2	26	
87.180	303.6	0.94	2	6	0.0	3	0.3	26	
76.769	306.5	0.88	4n	0.5			26-Inch		
85.616	304.7	0.92	4n	0.4			26-Inch		
87.178	303.4	0.96	2n	0.2			26-Inch		

FIN 376 05 07.2 -19 24

78.792	36.5	0.10	2	8	+0.3	1	0.0	60	
78.800	38.8	0.09	2	7	+0.3	1	0.0	60	
78.796	37.6	0.10	2n		0.0			60-Inch	

3711 STT 98 05 07.8 +08 30

75.884	32.5	0.78	1	7	+0.1	3	0.6	26	
76.016	31.1	0.79	1	5	0.0	3	0.3	26	
76.966	29.6	0.59	1	4	0.0	4	0.8	26	
77.106	25.7	0.82	2	4	0.0	3	0.8	26	
77.119	29.5	0.66	1	4	-0.1	3	0.8	26	
77.760	25.9	0.73	1	5	0.0	3	0.6	26	
77.946	25.4	0.69	1	5	-0.2	3	0.8	26	
78.064	24.3	0.67	1	6	0.0	3	0.5	26	
78.083	23.9	0.72	1	6	-0.1	3	0.9	26	
80.095	13.2	0.65	1	5	0.0	3	0.8	26	
80.104	15.3	0.73	1	5	-0.3	3	0.6	26	
80.117	17.2	0.72	2	5	-0.1	3	0.8	26	
80.120	17.1	0.66	3	6	-0.1	3	0.7	26	
81.015	15.6	0.70	2	6	0.0	4	0.7	26	
81.095	17.0	0.60	1	5	+0.3	3	0.8	26	
81.100	17.0	0.69	2	8	0.0	3	0.8	26	
85.080	4.1	0.71	1	7	0.0	3	0.6	26	
85.138	5.0	0.71	1	5	-0.1	3	0.8	26	
85.140	2.2	0.64	1	7	0.0	4	0.8	26	
85.162	4.4	0.68	1	5	-0.4	4	0.8	26	
86.830	0.8	0.76	1	4	-0.1	3	0.8	26	
87.095	0.1	0.67	1	5	0.0	3	0.7	26	
87.098	357.1	0.68	1	6	-0.2	3	0.8	26	
87.103	359.7	0.69	3	5	-0.2	3	0.8	26	
76.618	29.7	0.73	5n		0.7			26-Inch	
77.963	24.9	0.70	4n		0.7			26-Inch	
80.109	15.7	0.69	4n		0.7			26-Inch	
81.070	16.5	0.66	3n		0.8			26-Inch	
85.130	3.9	0.68	4n		0.8			26-Inch	
87.032	359.4	0.70	4n		0.8			26-Inch	

Baize, 1969: -1.1, +0.02; -1.9, 0.00;
-4.5, 0.00; -0.7, -0.03;
-0.3, 0.00; +1.4, +0.01.

3720 OL 94 05 08.2 -03 30

84.773	263.2	2.60	2	5	+0.2	3	2.0	60	
84.784	265.0	2.66	2	5	+0.4	3	2.2	60	
84.778	264.1	2.63	2n		2.1			60-Inch	

3728 A 2636 05 08.9 +03 13

86.063	150.6	0.20	1	6	-0.1	3	0.4	26	
86.085	155.0	0.24	1	7	-0.5	3	0.0	26	
87.103	157.6	0.36	2	5	-0.1	3	0.4	26	
87.114	153.5	0.25	1	7	-0.1	3	0.6	26	
86.591	154.2	0.26	4n		0.3			26-Inch	

Scardia, 1982: -4.0, -0.01. Quadrant reversed.

3730 BU 1047 BC 05 09.8 +28 02

78.108	88.8	0.27	2	6	-0.1	3	0.3	26	
78.113	89.5	0.25	2	7	-0.3	3	0.3	26	
78.149	86.0	0.29	2	5	0.0	3	0.4	26	
86.063	72.9	0.35	2	7	-0.2	3	0.4	26	
86.085	76.2	0.30	2	8	-0.5	3	0.0	26	
87.103	83.8	0.40	2	4	-0.2	3	0.5	26	
87.114	81.8	0.28	2	7	0.0	3	0.0	26	
78.123	88.1	0.27	3n		0.3			26-Inch	
86.591	78.7	0.33	4n		0.2			26-Inch	

Heintz, 1976: +2.2, -0.03; +3.6, 0.00.

3748 A 484 05 10.3 -07 35

78.773	295.2	0.15	2	7	+0.3	1	0.0	36	
78.784	298.5	0.22	2	6	+0.2	1	0.0	36	
78.789	301.5	0.16	2	9	+0.1	1	0.0	36	
78.782	298.4	0.18	3n		0.0			36-Inch	

Possible motion in a highly-inclined orbit.

3734 STF 644 05 10.4 +37 18

77.760	223.8	1.62	2	5	+0.1	3	0.0	26	
78.097	222.0	1.56	2	7	0.0	3	0.3	26	
78.108	223.9	1.48	2	8	0.0	3	0.3	26	
77.988	223.2	1.55	3n		0.2			26-Inch	

3765 A 2429 05 12.2 +17 15

80.095	33.9	0.81	2	5	0.0	3	0.6	26	
80.120	31.6	0.73	2	5	0.0	3	0.8	26	
80.172	35.1	0.93	2	5	-0.2	3	0.8	26	
80.129	33.5	0.82	3n		0.7			26-Inch	

3783 OL 87 05 12.7 -03 35

78.770	303.9	2.37	2	5	+0.2	1	0.1	36	
78.787	303.3	2.58	2	5	+0.2	1	0.4	36	
78.789	303.1	2.43	2	8	+0.2	1	0.1	36	
78.782	303.4	2.46	3n		0.2			36-Inch	

3747 HU 1099 05 12.9 +64 45

78.932	15.2	0.45	1	5	-0.3	3	0.3	26	
81.100	16.0	0.44	2	8	-0.3	3	0.4	26	
85.138	15.7	0.45	1	5	-0.2	3	0.3	26	
81.723	15.6	0.45	3n		0.3			26-Inch	

3768 A 1554 05 12.9 +41 35

77.108	1.6	0.22	1	6	+0.1	4	0.2	26	
77.133	355.5	0.21	1	7	0.0	4	0.0	26	
77.169	2.0	0.19	1	7	+0.2	4	0.0	26	
77.137	359.7	0.21	3n		0.0			26-Inch	

	HJ 3743			05 13.1	-59 59					
83.143	138.6	4.84	2	7	+0.3	3	1.0	36		
83.145	140.3	4.76	2	5	+0.2	3	0.7	36		
83.156	138.9	4.73	2	5	+0.4	3	1.0	36		
83.148	139.3	4.78	3n	0.9		36-Inch				
3796	A 1946			05 13.4	+07 28					
85.162	1.7	1.54	1	5	-0.1	4	1.1	26		
86.058	1.3	1.57	1	5	-0.1	3	1.4	26		
86.063	1.6	1.63	1	6	-0.1	3	1.4	26		
85.761	1.5	1.58	3n	1.3		26-Inch				
3799	STT 517			05 13.5	+01 58					
78.064	239.7	0.45	2	6	0.0	3	0.2	26		
78.083	238.5	0.34	2	6	-0.1	3	0.2	26		
78.097	234.7	0.34	2	6	0.0	3	0.4	26		
78.108	235.0	0.40	2	5	0.0	3	0.4	26		
85.080	236.8	0.51	2	7	0.0	3	0.3	26		
85.140	235.2	0.57	2	8	+0.1	4	0.3	26		
85.162	238.2	0.53	2	5	-0.3	4	0.5	26		
85.179	236.8	0.55	2	6	-0.1	3	0.4	26		
78.088	237.0	0.38	4n	0.3		26-Inch				
85.140	236.8	0.54	4n	0.4		26-Inch				
van den Bos, 1960: +1.0, -0.06; -1.9, +0.07.										
3814	I 476			05 13.5	-26 11					
78.770	2.1	0.57	2	5	+0.3	1	0.0	36		
78.773	1.4	0.59	2	7	+0.4	1	0.3	36		
78.784	359.2	0.61	2	4	+0.6	1	0.0	36		
78.776	0.9	0.59	3n	0.1		36-Inch				
Slow direct motion, distance unchanged.										
	DON 96			05 14.3	-22 33					
84.795	172.2	1.72	2	7	+0.3	4	0.3	36		
84.798	170.5	1.65	1	8	+0.3	4	0.2	36		
84.801	171.2	1.62	2	5	0.0	4	0.4	36		
84.798	171.3	1.66	3n	0.3		36-Inch				
3837	STF 665			05 15.7	+19 44					
77.106	256.1	1.68	2	5	0.0	3	0.5	26		
77.119	256.2	1.64	2	4	-0.1	3	0.3	26		
77.169	256.9	1.60	2	7	+0.2	4	0.4	26		
77.131	256.4	1.64	3n	0.4		26-Inch				
3856	BU 318			05 16.3	-03 29					
78.773	258.0	0.52	2	7	+0.4	1	0.2	36		
78.784	259.7	0.55	2	7	+0.3	1	0.1	36		
78.787	260.5	0.48	2	5	0.0	1	0.2	36		
78.781	259.4	0.52	3n	0.2		36-Inch				
3857	A 844			05 16.5	-01 38					
78.789	133.9	0.15	2	9	+0.2	1	0.0	36		
78.789	133.9	0.15	1n	0.0		36-Inch				
Baize, 1981: +5.3, -0.02.										
3867	A 52			05 16.9	-05 38					
84.787	162.5	1.86	1	6	+0.3	3	2.0	60		
84.790	164.0	1.94	1	7	0.0	3	2.4	60		
84.788	163.2	1.90	2n	2.2		60-Inch				
3851	HU 1101			05 17.2	+39 28					
78.083	292.2	0.28	2	6	0.0	3	2.0	26		
78.097	288.5	0.38	1	7	0.0	3	1.8	26		
78.108	293.8	0.33	3	6	0.0	3	1.5	26		
78.113	288.3	0.32	1	6	-0.4	3	1.6	26		
78.100	290.7	0.33	4n	1.7		26-Inch				
3880	A 2639			05 18.1	+03 41					
85.080	290.8	0.68	2	7	0.0	3	0.8	26		
85.138	289.1	0.63	2	5	+0.3	3	0.7	26		
85.140	290.0	0.82	2	8	+0.1	4	0.5	26		
85.119	290.0	0.71	3n	0.7		26-Inch				
3870	STF 657			05 18.8	+52 50					
78.083	299.9	0.97	2	5	0.0	3	0.3	26		
78.097	299.7	1.00	2	7	0.0	3	0.5	26		
78.108	300.5	0.84	2	5	+0.1	3	0.3	26		
78.113	301.6	1.03	2	6	-0.4	3	0.2	26		
78.100	300.4	0.96	4n	0.3		26-Inch				
	RST 2375			05 19.0	-21 59					
84.773	317.5	0.31	2	5	+0.1	3		60		
84.784	319.4	0.31	2	5	+0.3	3	0.3	60		
84.787	318.7	0.26	2	5	+0.2	3	0.3	60		
84.781	318.5	0.29	3n	0.3		60-Inch				
	HEI 41			05 19.1	+14 29					
85.162	99.3	0.31	2	5	-0.1	4	0.3	26		
85.179	100.0	0.30	2	5	0.0	3	0.2	26		
86.058	92.9	0.29	2	6	-0.2	3	0.2	26		
86.063	93.7	0.29	2	6	-0.1	3		26		
85.616	96.5	0.30	4n	0.2		26-Inch				
3900	A 53			05 19.1	-03 05					
77.108	7.7	1.92	4	6	0.0	4	3.5	26		
77.133	6.6	1.79	4	7	0.0	4	3.5	26		
77.169	7.7	1.90	1	7	+0.3	4	3.2	26		
77.137	7.3	1.87	3n	3.4		26-Inch				

3927 BU 190 05 20.4 -08 02

84.795	333.4	0.56	2	7	+0.2	4	0.4	36
84.798	333.3	0.55	2	8	+0.2	4	0.3	36
84.801	332.8	0.47	2	5	0.0	4	0.4	36
84.798	333.2	0.53	3n		0.4			36-Inch

HJ 3753 05 21.2 -35 43

83.159	221.0	2.89	2	4	+0.4	3	0.8	36
83.162	220.9	3.18	2	4	+0.4	3	1.2	36
83.160	221.0	3.04	2n		1.0			36-Inch

3937 A 2640 05 21.6 +07 40

81.100	91.0	0.19	2	7	-0.2	3		26
85.162	86.3	0.25	2	5	-0.1	4	1.2	26
85.179	81.9	0.25	2	5	0.0	3	1.0	26
87.114	78.1	0.33	2	7	-0.1	3	1.0	26
84.639	84.3	0.26	4n		1.0			26-Inch

Difficult. A substantial angular increase since the last measure.

3954 HJ 3752 05 21.8 -24 46

83.159	93.5	3.52	2	4	+0.5	3	1.0	36
83.162	94.0	3.54	2	6	+0.7	3	1.2	36
83.160	93.8	3.53	2n		1.1			36-Inch

3964 OL 137 05 22.6 -07 53

78.784	210.0	1.55	2	8	+0.3	1	0.2	36
78.787	210.3	1.53	2	5	+0.1	1	0.3	36
78.789	209.8	1.62	2	8	+0.2	1	0.3	36
78.787	210.0	1.57	3n		0.3			36-Inch

3974 A 486 05 23.1 -08 06

78.784	82.1	0.61	2	7	+0.4	1	1.1	36
78.787	75.7	0.46	2	5	+0.2	1	1.2	36
78.789	80.0	0.51	2	8	+0.3	1	1.2	36
78.787	79.3	0.53	3n		1.2			36-Inch

I 275 05 23.4 -36 40

83.148	264.6	0.57	2	8	+0.1	3	0.5	36
83.151	262.1	0.54	2	7	+0.1	3	0.7	36
84.795	259.9	0.58	2	7	+0.5	4	0.6	36
84.798	257.3	0.56	2	7	+0.3	4	0.6	36
84.801	260.0	0.56	2	6	+0.2	4	0.4	36
83.150	263.4	0.56	2n		0.6			36-Inch
84.798	259.1	0.57	3n		0.5			36-Inch

More than a quadrant has been described.

COU 1090 05 24.0 +32 38

80.095	235.2	0.24	2	6	0.0	3	0.0	26
80.172	226.2	0.17	2	6	-0.3	3		26
81.100	249.0	0.20	2	7	-0.1	3		26
80.455	237	0.20	3n					26-Inch

Uncertain.

3955 STF 676 05 24.8 +64 44

75.884	266.0	1.29	2	6	0.0	3	0.8	26
76.016	270.5	1.33	2	6	-0.1	3	0.6	26
76.966	267.2	1.26	2	5	-0.1	4	0.8	26
77.119	268.3	1.27	2	4	-0.2	3	1.2	26
86.063	267.1	1.37	2	6	-0.1	3	0.8	26
86.085	268.4	1.28	2	7	-0.3	3	0.6	26
87.103	267.3	1.47	2	4	-0.2	3	0.8	26
87.114	269.3	1.41	2	7	-0.1	3	0.6	26
76.946	268.0	1.29	4n		0.8			26-Inch
86.591	268.0	1.38	4n		0.7			26-Inch

3956 STF 677 05 24.8 +63 23

[illegible]108	161.2	0.75	2	5	0.0	3	0.4	26
7[illegible].113	160.1	0.80	2	7	-0.4	3	0.[illegible]	26
78.149	160.6	0.93	2	6	-0.3	3	0.6	26
86.063	151.6	0.98	2	6	-0.1	3	0.6	26
86.085	150.7	1.02	2	7	-0.2	3	0.8	26
87.114	147.7	0.87	1	7	-0.1	3	0.4	26
87.174	149.0	0.92	2	7	0.0	3	0.4	26
78.123	160.6	0.83	3n		0.6			26-Inch
86.609	149.8	0.95	4n		0.5			26-Inch

Heintz, 1962: -0.6, -0.19; -0.7, -0.13.

I 345 05 24.8 -52 19

83.143	96.0	0.16	2	7	+0.3	3		36
83.145	96.8	0.21	2	5	+0.2	3		36
83.154	94.7	0.18	2	5	0.0	3		36
83.147	95.8	0.18	3n					36-Inch

Decrease in angle and separation is now rapid.

I 390 05 24.9 -58 10

83.148	325.1	0.16	2	7	+0.1	3		36
83.151	326.5	0.19	2	7	+0.1	3		36
83.150	325.8	0.18	2n					36-Inch

3994 HU 1104 05 25.0 +37 16

77.106	220.6	0.94	2	5	0.0	3	0.6	26
77.760	227.7	0.88	2	4	-0.1	3	1.0	26
78.064	225.5	0.88	2	5	-0.1	3	0.6	26
78.083	221.2	0.99	2	6	-0.1	3	0.5	26
77.753	223.8	0.92	4n		0.7			26-Inch

4006 HU 1226 05 25.1 +15 21

78.932	55.0	0.62	2	6	-0.3	3	0.0	26	
80.095	52.6	0.63	2	5	0.0	3	0.4	26	
80.120	55.3	0.63	2	5	-0.2	3	0.3	26	
79.716	54.3	0.63	3n		0.2			26	Inch

I 1150 05 26.8 -64 35

83.143	95.1	0.23	2	6	+0.3	3		36	
83.145	95.0	0.23	2	5	+0.3	3		36	
83.144	95.0	0.23	2n					36	Inch

I 276 05 27.0 -68 37

83.143	166.0	1.20	2	7	+0.3	3	0.8	36	
83.145	165.4	1.29	2	6	+0.4	3	0.4	36	
83.144	165.7	1.24	2n		0.6			36	Inch

4032 HO 226 05 27.1 +27 36

80.095	259.5	0.71	2	5	0.0	3	0.0	26	
80.120	261.2	0.77	2	5	-0.2	3	0.2	26	
80.172	261.0	0.77	2	5	0.0	3	0.0	26	
80.129	260.6	0.75	3n		0.0			26	Inch

4030 HU 1227 05 27.3 +38 35

78.064	138.1	0.45	2	5	0.0	3	0.5	26	
78.083	138.2	0.51	2	6	0.0	3	0.8	26	
78.113	137.6	0.47	1	7	-0.3	3	1.6	26	
78.087	138.0	0.48	3n		1.0			26	Inch

SEE 53 05 27.6 -20 55

83.154	239.5	0.16	2	6	+0.3	3		36	
83.173	232.4	0.14	2	5	+0.5	2		60	
83.176	230.1	0.15	2	5	+0.7	2		60	
83.154	239.5	0.16	1n					36	Inch
83.174	231.2	0.14	2n					60	Inch

Baize, 1981: +15.5, -0.03; +7.1, -0.05.

4022 A 319 05 27.8 -04 00

78.792	356.4	0.17	1	8	+0.1	1	0.2	60	
78.800	357.0	0.18	1	6	+0.2	1	0.0	60	
78.796	356.7	0.18	2n		0.1			60	Inch

Closed in.

DON 109 05 28.0 -67 35

83.143	170.9	1.56	2	6	+0.4	3	0.3	36	
83.145	169.6	1.52	2	6	+0.5	3	0.3	36	
83.144	170.2	1.54	2n		0.3			36	Inch

4078 DA 6 05 28.9 -03 18

87.177	202.8	0.17	2	7	-0.3	3		26	
87.180	202.5	0.19	2	6	-0.2	3	0.4	26	
87.194	206.2	0.14	2	7	0.0	3		26	
87.184	203.8	0.17	3n		0.4			26	Inch

4074 A 2645 05 29.0 +05 50

81.100	144.5	1.29	2	7	0.0	3	0.2	26	
85.080	143.9	1.23	2	7	0.0	3	0.4	26	
85.138	145.4	1.17	2	5	+0.2	3	0.2	26	
83.773	144.6	1.23	3n		0.3			26	Inch

4078 DA 6 05 29.0 -03 18

84.787	202.2	0.16	2	5	+0.4	3		60	
84.790	196.0	0.14	2	7	0.0	3		60	
84.788	199.1	0.15	2n					60	Inch

Rapid direct motion.

4073 STT 108 05 29.4 +18 22

87.177	130.5	3.25	2	6	-0.2	3	3.0	26	
87.180	128.0	3.17	2	6	-0.1	3	3.0	26	
87.178	129.2	3.21	2n		3.0			26	Inch

4067 A 1035 05 29.5 +31 26

81.100	119.0	1.63	2	7	-0.1	3	1.1	26	
85.080	117.2	1.84	2	6	0.0	3	1.5	26	
85.138	119.7	1.53	2	5	-0.2	3	2.2	26	
83.773	118.6	1.67	3n		1.6			26	Inch

4088 BU 557 BC 05 29.5 +03 09

77.108	182.5	0.30	1	7	+0.1	4	0.2	26	
77.133	182.6	0.27	1	7	-0.1	4	0.0	26	
77.169	183.4	0.30	1	7	+0.2	4	0.2	26	
77.137	182.8	0.29	3n		0.1			26	Inch

RST 4781 05 30.1 -01 45

84.795	19.0	0.31	2	7	+0.2	4	0.2	36	
84.798	20.6	0.36	2	7	+0.1	4	0.2	36	
84.801	20.5	0.30	1	6	-0.1	4	0.3	36	
84.798	20.0	0.32	3n		0.2			36	Inch

I 62 05 30.5 -47 13

83.148	181.0	0.81	2	7	+0.2	3	0.4	36	
83.151	178.8	0.78	2	7	+0.1	3	0.5	36	
83.150	179.9	0.80	2n		0.4			36	Inch

4079 A 1561 05 30.7 +53 40

76.016	356.0	0.40	1	6	-0.1	3	0.8	26
76.966	351.0	0.47	1	5	-0.1	4	0.8	26
77.108	353.8	0.52	1	7	0.0	4	1.0	26
76.697	353.6	0.46	3n		0.9		26-Inch	

4115 STF 728 05 30.8 +05 57

85.140	47.3	1.08	2	7	0.0	4	0.8	26
85.162	46.7	0.96	2	5	-0.1	4	1.2	26
85.179	49.4	1.06	2	5	0.0	3	1.0	26
85.160	47.8	1.03	3n		1.0		26-Inch	

Siegrist, 1951: +4.7, +0.07.

RST 4278 05 31.2 -22 14

83.156	141.7	2.00	2	4	+0.3	3		36
83.159	145.0	2.44	2	4	+0.7	3		36
83.162	142.1	2.18	2	5	+0.8	3	0.0	36
83.159	142.9	2.21	3n		0.0		36-Inch	

4134 HEI 42 Aa 05 32.0 -00 18

87.194	140.3	0.21	2	6	+0.2	3	0.2	26
87.213	138.4	0.30	1	8	+0.5	3	0.5	26
87.224	140.4	0.24	2	7	+0.7	3	0.7	26
87.210	139.7	0.25	3n		0.5		26-Inch	

Delta Orionis. The companion will greatly complicate photometric interpretation.

4076 A 1034 05 32.2 +70 49

86.063	148.9	0.79	2	5	-0.1	3	0.4	26
86.085	145.2	0.77	2	7	-0.3	3	0.8	26
87.114	147.9	0.81	2	7	-0.1	3	0.6	26
87.174	146.2	0.82	2	7	0.0	3	0.7	26
86.609	147.0	0.80	4n		0.6		26-Inch	

Heintz, 1976: +4.5, +0.17.

4136 A 2509 05 32.3 +02 17

80.120	137.2	0.30	2	5	-0.1	3	0.5	26
80.172	139.2	0.35	2	5	0.0	3	0.2	26
81.100	138.0	0.33	2	7	0.0	3	0.0	26
80.464	138.1	0.33	3n		0.2		26-Inch	

4153 DAW 85 05 33.0 -24 15

78.787	269.6	0.39	2	5	+0.2	1	0.5	36
78.789	275.7	0.39	4	8	+0.3	1	0.7	36
78.788	272.6	0.39	2n		0.6		36-Inch	

Newburg, 1969: -3.4, -0.22.
Much closer than the orbit indicates.

4150 STF 734 AB 05 33.2 -01 43

78.064	357.2	1.56	1	5	0.0	3	1.2	26
78.083	356.5	1.72	1	6	0.0	3	1.5	26
78.097	355.0	1.48	1	7	0.0	3	1.4	26
78.081	356.2	1.59	3n		1.4		26-Inch	

BU 1049 CD

78.064	292.4	0.57	2	5	0.0	3	0.5	26
78.083	297.8	0.49	2	5	+0.1	3	0.8	26
78.097	293.8	0.57	2	6	+0.1	3	0.6	26
78.081	294.7	0.54	3n		0.6		26-Inch	

HU 1566 05 33.6 -51 04

84.795	68.5	1.58	2	7	+0.4	4	0.2	36
84.798	68.8	1.35	2	7	+0.2	4	0.2	36
84.801	70.9	1.48	2	6	-0.1	4	0.4	36
84.798	69.4	1.47	3n		0.3		36-Inch	

Erceg, 1985: +0.8, +0.02.

4181 STT 111 05 35.2 +10 15

85.162	351.9	2.77	1	5	-0.1	4	3.4	26
85.179	351.1	2.61	1	6	0.0	3	3.0	26
86.058	352.7	2.94	1	7	-0.3	3	3.0	26
85.466	351.9	2.77	3n		3.1		26-Inch	

RST 141 05 35.3 -46 57

83.151	242.7	0.33	2	7	+0.3	3	0.9	36
83.154	247.3	0.31	2	5	+0.1	3	0.8	36
83.162	243.3	0.27	2	5	+0.4	3	1.0	36
83.156	244.4	0.30	3n		0.9		36-Inch	

Heintz, 1979: +1.6, 0.00.

FIN 345 05 35.4 -04 25

78.792	97.8	0.26	2	8	0.0	1	0.7	60
78.800	91.0	0.26	2	6	0.0	1	0.8	60
78.796	94.4	0.26	2n		0.8		60-Inch	

HU 1393 05 35.5 -33 16

83.176	331.9	0.66	2	4	+0.4	2	0.8	60
83.184	330.1	0.53	2	5	+0.8	2	0.7	60
83.180	331.0	0.60	2n		0.8		60-Inch	

4204 STF 736 05 37.1 +41 50

87.174	356.5	2.31	2	7	0.0	3	0.8	26
87.177	357.0	2.59	2	7	-0.1	3	0.5	26
87.180	358.5	2.49	2	6	-0.1	3	0.5	26
87.177	357.3	2.46	3n		0.6		26-Inch	

4208 STF 749 05 37.1 +26 56

77.185	150.2	1.03	2	8	-0.2	3	0.3	26
77.188	149.1	1.06	2	7	0.0	3	0.2	26
77.207	151.2	1.08	3	4	+0.6	3	0.1	26
77.193	150.2	1.06	3n		0.2			26-Inch

4203 A 1562 05 37.2 +43 39

78.127	351.2	0.34	1	6	0.0	3	0.2	26
78.149	351.6	0.33	2	6	-0.2	3	0.2	26
78.932	353.9	0.36	2	6	-0.3	3	0.1	26
87.174	353.0	0.42	2	7	0.0	3	0.3	26
87.177	352.4	0.46	2	7	0.0	3	0.0	26
87.180	356.4	0.46	2	5	0.0	3	0.0	26
78.403	352.2	0.34	3n		0.2			26-Inch
87.177	353.9	0.45	3n		0.1			26-Inch

4232 A 491 05 37.8 -06 42

83.173	226.8	0.17	2	4	+0.4	2		60
83.176	230.0	0.18	2	5	+0.6	2	0.1	60
83.184	231.5	0.18	2	4	+0.9	2		60
83.178	229.4	0.18	3n		0.1			60-Inch

4224 A 2708 05 37.9 +08 57

78.097	299.5	0.58	2	6	+0.1	3	1.1	26
78.149	303.5	0.47	2	5	-0.1	3	0.5	26
78.932	300.8	0.59	2	5	+0.1	3	0.7	26
78.393	301.3	0.55	3n		0.8			26-Inch

4229 BU 1240 05 38.6 +30 30

79.181	89.2	0.10	2	6	-0.1	3		26
79.181	89.2	0.10	1n					26-Inch

Scardia, 1985: 0.0, +0.02.
Speckle observations now define well this critical portion of the orbit.

4241 BU 1032 05 38.7 -02 36

77.185	164.4	0.22	1	7	-0.1	3	1.6	26
77.188	166.8	0.23	1	7	0.0	3	1.2	26
78.064	161.0	0.26	1	5	+0.1	3	2.0	26
78.083	167.5	0.25	1	5	+0.1	3	1.8	26
77.630	164.9	0.24	4n		1.6			26-Inch

Heintz, 1974: -0.9, +0.01.

I 1152 05 38.7 -69 06

83.148	219.0	0.45	2	7	+0.3	3	1.0	36
83.151	221.3	0.47	2	5	+0.2	3	1	36
83.176	221.4	0.48	2	5	+1.0	2	1	60
83.150	220.2	0.46	2n		1.0			36-Inch
83.176	221.4	0.48	1n		1			60-Inch

This is the enigmatic object R136a (See Ap. J. 278, L109, 1984 for a discussion and references).

4247 A 2709 05 39.4 +11 50

85.162	67.6	0.20	2	5	0.0	4	0.0	26
85.179	66.2	0.24	2	5	0.0	3	0.0	26
86.058	66.1	0.20	2	7	-0.3	3		26
86.063	64.2	0.26	2	5	-0.1	3		26
85.616	66.0	0.23	4n		0.0			26-Inch

4257 OL 4 05 39.6 -21 37

78.784	257.6	2.02	2	5	+0.2	1	0.0	36
78.787	256.5	2.01	2	5	0.0	1	0.3	36
78.789	256.8	2.02	2	8	+0.3	1	0.2	36
78.787	257.0	2.02	3n		0.2			36-Inch

4265 BU 1007 05 41.3 +16 32

77.106	242.6	0.28	2	5	-0.1	3	0.3	26
77.108	244.5	0.28	2	7	+0.1	4	0.7	26
77.119	239.6	0.34	3	5	-0.3	3	0.6	26
77.133	239.3	0.29	2	7	0.0	4	0.8	26
77.116	241.5	0.30	4n		0.6			26-Inch

Valbousquet, 1980: -0.3, -0.01.

HU 1568 05 41.8 -50 00

83.143	177.3	0.91	2	6	+0.5	3	0.4	36
83.145	181.9	0.88	2	5	+0.7	3		36
83.148	177.1	0.91	2	8	+0.4	3	0.2	36
83.145	178.8	0.90	3n		0.3			36-Inch

4299 A 494 05 42.9 -06 48

83.173	105.6	0.20	2	5	+0.5	2	0.2	60
83.176	104.2	0.19	2	6	+0.6	2	0.2	60
83.184	103.2	0.20	2	5	+0.9	2	0.3	60
84.787	116.3	0.18	2	6	0.0	3	0.0	60
84.790	114.0	0.18	2	5	-0.1	3	0.3	60
83.178	104.3	0.20	3n		0.2			60-Inch
84.788	115.2	0.18	2n		0.2			60-Inch

Couteau, 1958: -7.3, +0.01; -9.6, +0.01.
Increasing deviation.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

4301 A 2436 05 43.5 +16 42

77.106	115.2	0.24	2	5	0.0	3	0.0	26
77.108	116.0	0.22	2	7	+0.1	4	0.6	26
77.133	110.9	0.22	2	7	-0.2	4	0.6	26
77.169	119.9	0.22	3	7	+0.1	4	0.4	26
77.129	115.5	0.22	4n		0.4		26-Inch	

4320 A 2654 05 44.2 +00 58

81.100	338.9	0.20	2	7	-0.1	4	0.0	26
85.140	339.1	0.18	2	7	0.0	4	0.0	26
83.120	339.0	0.19	2n		0.0		26-Inch	

4323 STT 115 05 44.5 +15 04

77.106	120.4	0.42	2	5	0.0	3	0.5	26
77.108	118.9	0.43	2	7	+0.2	4	0.6	26
77.119	116.6	0.44	2	4	-0.3	3	0.8	26
77.169	122.5	0.51	1	7	+0.1	4	1.0	26
77.126	119.6	0.45	4n		0.7		26-Inch	

4330 A 497 05 44.5 -07 44

83.173	190.8	1.97	2	5	+0.6	2	1.8	60
83.176	188.7	2.22	2	6	+0.7	2	2.2	60
83.184	187.6	2.18	2	5	+1.0	2	2.3	60
83.178	189.0	2.12	3n		2.1		60-Inch	

4360 A 3018 05 45.7 -14 47

78.792	101.4	0.72	2	8	+0.2	1	0.2	60
78.800	102.2	0.74	2	5	-0.1	1	0.2	60
78.796	101.8	0.73	2n		0.2		60-Inch	

The quadrant is frequently reversed.

4349 STF 787 05 46.0 +21 19

80.120	61.7	0.84	2	6	-0.2	3	0.3	26
80.172	62.4	0.89	2	5	0.0	3	0.4	26
85.080	60.0	0.83	2	7	-0.1	3	0.4	26
81.791	61.4	0.85	3n		0.4		26-Inch	

4371 BU 560 05 47.4 +29 39

86.063	130.4	1.64	2	5	-0.2	3	0.5	26
87.114	130.8	1.51	2	7	0.0	3	0.3	26
87.174	129.0	1.57	1	6	0.0	3	0.6	26
87.177	129.6	1.42	2	6	-0.1	3	0.3	26
86.882	130.0	1.54	4n		0.4		26-Inch	

4388 STT 119 05 47.9 +07 58

85.140	345.1	0.71	2	8	0.0	4	1.2	26
85.162	344.2	0.62	1	7	-0.1	4	0.6	26
85.179	345.4	0.73	1	5	0.0	3	0.5	26
85.160	344.9	0.69	3n		0.8		26-Inch	

4396 A 2657 05 48.3 +01 37

77.188	139.3	0.15	2	7	-0.1	4	0.0	26
78.792	142.0	0.15	2	8	0.0	1	0.0	60
78.800	145.8	0.11	2	5	-0.1	1	0.0	60
80.120	130.1	0.19	2	6	-0.1	3	0.0	26
81.100	138.0	0.19	2	6	0.0	4	0.0	26
78.796	143.9	0.13	2n		0.0		60-Inch	
79.469	135.8	0.18	3n		0.0		26-Inch	

Valbousquet, 1980: +2.0,-0.02; -9.1,+0.03.
Mourao et al,1982: +9.3,-0.02; -1.8,+0.02.

4376 STF 3115 05 49.0 +62 48

75.025	358.5	0.82	1	3	-0.7	3	1.4	26
75.884	358.3	0.96	1	6	-0.2	3	1.1	26
77.106	356.6	1.03	1	5	-0.1	3	0.8	26
77.185	355.2	0.90	1	7	-0.1	3	1.0	26
76.300	357.2	0.93	4n		1.1		26-Inch	

4432 BU 94 05 49.6 -14 29

83.156	165.1	2.44	2	5	+0.1	3	2.5	36
83.159	166.5	2.45	2	6	+0.6	3	1.5	36
83.158	165.8	2.44	2n		2.0		36-Inch	

HJ 3812 05 49.7 -59 50

84.795	192.0	2.63	2	7	+0.5	4	0.3	36
84.798	192.5	2.65	1	7	+0.1	4	0.3	36
84.801	194.6	2.67	2	5	-0.1	4	0.3	36
84.798	193.0	2.65	3n		0.3		36-Inch	

HU 1395 05 50.1 -56 48

83.143	58.7	0.85	2	7	+0.6	3	0.8	36
83.145	60.0	0.80	2	6	+0.7	3	0.7	36
83.144	59.4	0.82	2n		0.8		36-Inch	

BAL 47 05 50.4 -02 32

83.159	71.3	3.57	2	4	+0.5	3	0.8	36
83.162	70.0	3.46	2	5	+0.6	3	0.4	36
83.160	70.6	3.52	2n		0.6		36-Inch	

4442 BU 1188 05 50.7 -01 25

77.106	94.4	1.19	2	5	0.0	3	3.0	26
77.108	95.1	1.18	2	7	+0.2	4	2.8	26
77.133	94.8	1.23	2	6	0.0	4	3.0	26
77.116	94.8	1.20	3n		2.9		26-Inch	

4422 A 1312 05 51.0 +56 22

78.108	46.0	3.63	2	5	-0.1	3	1.0	26
78.149	45.5	3.55	2	5	-0.1	3	1.4	26
78.128	45.8	3.59	2n		1.2		26-Inch	

4425 A 1313 05 51.2 +56 24

78.127	136.6	0.63	2	5	0.0	3	0.6	26
78.149	136.7	0.65	2	5	-0.1	3	0.6	26
78.932	131.6	0.69	2	5	-0.5	3	0.7	26
78.403	138.3	0.66	3n		0.6		26-Inch	

4458 A 2512 05 51.4 -11 38

83.154	276.7	1.18	2	6	+0.3	3	1.5	36
83.156	277.6	1.09	2	5	+0.2	3	1.7	36
83.155	277.2	1.14	2n		1.6		36-Inch	

4437 HU 1113 05 52.4 +60 52

78.108	245.8	1.30	2	5	0.0	3	0.2	26
78.127	242.5	1.31	2	5	0.0	3	0.1	26
78.149	243.9	1.30	2	5	0.0	3	0.2	26
78.128	243.9	1.30	3n		0.2		26-Inch	

RST 4789 05 52.5 -15 51

83.154	117.3	1.84	2	7	+0.4	3	0.3	36
83.156	118.2	1.67	2	5	+0.3	3	0.3	36
83.155	117.8	1.76	2n		0.3		36-Inch	

SLR 15 05 53.3 -61 50

83.143	143.3	0.25	2	7	+0.7	3	0.4	36
83.145	144.5	0.26	2	7	+0.8	3	0.3	36
83.144	143.9	0.26	2n		0.4		36-Inch	

Two quadrants have been described.

FIN 93 05 53.6 -56 40

83.173	242.4	0.13	2	5	+0.6	2	0.2	60
83.176	234.9	0.14	2	7	+0.9	2	0.0	60
83.184	226.9	0.14	2	6	+1.0	2		60
83.178	234.7	0.14	3n		0.1		60-Inch	

Rapid direct motion, but only three measures, including the discovery one.

4488 A 2714 05 53.9 +06 33

78.932	145.3	0.65	2	5	0.0	3	0.0	26
79.181	138.8	0.71	2	6	+0.3	3	0.0	26
79.203	137.4	0.55	2	3	+0.4	3		26
79.206	140.4	0.66	2	6	+0.2	3	0.1	26
79.130	140.5	0.64	4n		0.0		26-Inch	

4491 STT 123 05 54.1 +10 14

78.932	185.7	2.28	1	5	0.0	3	1.7	26
79.159	186.6	2.18	1	4	-0.3	3	1.8	26
79.181	184.1	2.09	1	6	-0.3	3	1.8	26
79.091	185.5	2.18	3n		1.8		26-Inch	

RST 5503 05 54.8 -53 34

83.148	73.4	0.14	2	8	+0.4	3		36
83.151	66.3	0.19	2	7	+0.4	3	0.0	36
83.150	69.8	0.16	2n		0.0		36-Inch	

4502 A 2658 05 55.0 +06 13

79.181	79.8	0.41	2	6	-0.2	3	0.0	26
79.203	81.3	0.43	2	6	+0.3	3	0.3	26
80.095	70.9	0.46	2	5	0.0	3		26
80.120	78.6	0.40	4	6	-0.1	3	0.2	26
79.650	77.6	0.42	4n		0.1		26-Inch	

4479 HU 1114 05 55.8 +64 19

78.108	88.2	1.17	2	5	0.0	3	0.3	26
78.127	87.8	1.23	2	5	+0.1	3	0.4	26
78.149	85.4	1.24	2	5	0.0	3	0.3	26
78.128	87.1	1.21	3n		0.3		26-Inch	

4505 STT 122 05 55.8 +36 56

78.097	255.0	0.20	2	7	0.0	3		26
78.127	246.5	0.22	2	6	+0.1	3	0.7	26
78.149	248.8	0.17	2	6	+0.1	3	0.7	26
78.932	254.5	0.26	2	5	-0.3	3	0.5	26
78.326	251.2	0.21	4n		0.6		26-Inch	

Heintz, 1979: -10.2, 0.00.

4540 B 94 05 56.5 -26 31

78.792	257.1	0.14	2	8	+0.1	1	0.3	60
78.800	252.5	0.14	2	7	0.0	1	0.2	60
78.796	254.8	0.14	2n		0.2		60-Inch	

Closed in.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

4536 A 321 05 56.8 -03 04

78.792	137.1	0.69	2	8	-0.1	1	0.6	60	
78.800	137.4	0.69	2	6	-0.1	1	0.7	60	
78.796	137.2	0.69	2n	0.6				60-Inch	

HU 1570 05 58.1 -52 13

83.143	326.5	0.76	2	7	+0.8	3	0.3	36	
83.145	326.1	0.72	2	5	+0.8	3	0.2	36	
83.148	328.1	0.60	2	8	+0.4	3	0.0	36	
83.145	326.9	0.69	3n	0.2				36-Inch	

Heintz, 1968: -4.7, +0.09.

4530 A 1569 05 58.2 +55 55

77.188	266.9	0.25	2	7	-0.1	4	0.9	26	
78.064	265.2	0.19	2	5	0.0	3	0.6	26	
78.083	263.8	0.22	2	5	0.0	3	0.7	26	
77.778	265.3	0.22	3n	0.7				26-Inch	

4562 STT 124 05 58.9 +12 49

77.106	297.5	0.51	2	5	+0.1	3	1.2	26	
77.108	299.8	0.41	2	7	+0.2	4	1.0	26	
77.133	299.4	0.37	2	7	0.0	4	0.8	26	
77.185	298.1	0.43	2	7	-0.4	3	1.8	26	
85.203	298.6	0.45	2	5	+0.1	3	0.8	26	
87.114	302.0	0.53	2	7	0.0	3	0.8	26	
87.174	301.6	0.61	2	5	-0.1	3	1.4	26	
87.177	299.8	0.50	2	6	-0.2	3	1.0	26	
77.133	298.7	0.43	4n	1.2				26-Inch	
86.667	300.5	0.52	4n	1.0				26-Inch	

Baize, 1981: -2.1, +0.02; -2.6, +0.11.
Starikova, 1985: -1.1, 0.00; -1.4, +0.08.

4538 HU 1115 05 59.1 +61 08

77.188	282.2	0.22	2	7	0.0	4	0.2	26	
78.083	280.7	0.27	2	5	0.0	3	1.0	26	
78.932	286.1	0.24	2	5	-0.5	3	0.0	26	
78.068	283.0	0.24	3n	0.4				26-Inch	

4575 A 2441 05 59.4 +13 45

81.100	270.5	0.24	2	6	0.0	4	0.3	26	
85.080	271.3	0.22	2	6	-0.1	3	0.2	26	
85.140	275.5	0.24	2	7	-0.1	4	0.2	26	
83.773	272.4	0.23	3n	0.2				26-Inch	

HU 1399 BC 06 00.4 -31 03

83.154	310.7	0.91	3	6	+0.7	3	1.2	36	
83.162	314.8	0.92	2	6	+1.0	3	1.2	36	
83.158	312.8	0.92	2n	1.2				36-Inch	

Baize, 1952: -4.9, -0.01.

HEI 47 06 01.1 +14 14

86.063	209.8	2.22	2	5	0.0	3		26	
87.114	208.1	1.89	1	7	0.0	3	0.2	26	
87.174	209.4	2.01	2	8	0.0	3	0.3	26	
86.784	209.1	2.04	3n	0.2				26-Inch	

HU 1403 06 02.0 -48 56

83.148	91.2	1.22	2	8	+0.4	3	0.3	36	
83.151	92.1	1.23	2	7	+0.4	3	0.2	36	
83.150	91.6	1.22	2n	0.2				36-Inch	

4623 J 50 06 02.6 +08 01

79.181	236.7	0.56	2	6	-0.2	3	0.1	26	
79.203	240.3	0.48	2	7	+0.2	3	0.2	26	
80.095	238.7	0.53	2	5	-0.2	3	0.2	26	
79.493	238.6	0.52	3n	0.2				26-Inch	

4604 A 1315 06 03.1 +58 13

77.185	66.8	0.35	2	7	-0.1	3	0.1	26	
77.188	68.0	0.30	2	6	0.0	4	0.1	26	
78.064	73.2	0.29	2	5	+0.1	3	0.2	26	
77.479	69.3	0.31	3n	0.1				26-Inch	

Costa, Docobo, 1984: -3.6, +0.02.

RST 171 06 03.5 -55 13

83.148	247.3	0.21	2	8	+0.5	3		36	
83.151	251.0	0.22	2	6	+0.5	3		36	
83.150	249.2	0.22	2n					36-Inch	

Direct motion with decreasing separation.

KUI 23 06 04.1 +23 16

75.884	188.1	0.20	2	6	0.0	3	0.5	26	
76.016	189.9	0.24	3	6	+0.1	3	0.8	26	
76.966	192.6	0.24	3	5	0.0	4	1.2	26	
77.106	198.8	0.24	1	5	0.0	3	0.0	26	
77.108	200.2	0.24	1	7	+0.2	4	0.4	26	
78.097	213.9	0.19	2	6	0.0	3	0.5	26	
87.177	170.6	0.31	2	7	0.0	3		26	
87.180	170.3	0.29	2	5	-0.2	3	0.3	26	
87.194	175.8	0.30	1	6	-0.1	3	0.3	26	
87.213	173.4	0.29	2	7	+0.1	3	0.3	26	
76.616	193.9	0.23	5n	0.6				26-Inch	
78.097	213.9	0.19	1n	0.5				26-Inch	
87.191	172.5	0.30	4n	0.3				26-Inch	

Heintz, 1985: +0.9, -0.01; +2.7, +0.02;
+0.9, +0.04.

4647 J 335 06 04.2 +11 01

79.181	281.2	1.31	2	6	-0.1	3	0.7	26
81.100	280.2	1.21	2	6	0.0	4	0.8	26
85.140	279.1	1.17	2	7	-0.1	4	0.8	26
85.162	282.9	0.90	2	6	-0.2	4	1.0	26
82.646	280.8	1.15	4n		0.8			26-Inch

4650 HU 827 06 04.8 +32 11

77.133	87.2	0.23	2	7	0.0	4	0.2	26
77.169	84.8	0.23	2	6	-0.1	4	0.0	26
77.185	86.8	0.28	2	7	-0.1	3	0.2	26
77.188	85.9	0.21	2	7	+0.1	4	0.2	26
77.169	86.2	0.24	4n		0.2			26-Inch

FIN 387 06 05.0 -58 50

83.143	210.4	12.36	2	7	+0.8	3	4.0	36
83.151	207.2	11.83	2	7	+0.7	3	5.0	36
83.147	208.8	12.10	2n		4.5			36-Inch

This is the only measure.

4660 A 1951 06 05.2 +07 08

85.140	39.0	0.39	2	7	0.0	4	0.8	26
85.162	42.9	0.39	2	6	-0.1	4	0.7	26
85.179	37.0	0.41	2	5	-0.2	3	0.8	26
85.160	39.6	0.40	3n		0.8			26-Inch

4603 STT 121 06 05.3 +74 00

77.185	259.7	0.25	2	7	-0.3	3	1.0	26
77.188	250.1	0.18	2	6	0.0	4	1.0	26
78.064	252.3	0.20	2	5	0.0	3	1.0	26
77.479	254.0	0.21	3n		1.0			26-Inch

Heintz, 1978: +4.5, +0.01.

HU 1572 06 06.3 -52 19

83.173	47.6	0.44	2	5	+0.5	2	0.4	60
83.176	47.4	0.45	2	7	+0.8	2	0.8	60
83.174	47.5	0.44	2n		0.6			60-Inch

4687 STF 840 BC 06 06.4 +10 45

85.080	133.9	0.33	2	7	0.0	3	0.3	26
85.140	128.5	0.36	2	7	+0.1	4	0.5	26
85.162	133.5	0.33	2	5	-0.1	4	0.3	26
85.127	132.0	0.34	3n		0.4			26-Inch

The pair has slowly closed in over the last 155 years, and angular motion is now becoming appreciable.

4699 A 504 06 06.8 -08 42

83.162	146.5	1.08	2	6	+0.5	3	0.5	36
83.184	146.1	0.95	2	5	+0.7	2	0.4	60
83.162	146.5	1.08	1n		0.5			36-Inch
83.184	146.1	0.95	1n		0.4			60-Inch

4691 STT 131 06 07.5 +36 16

87.180	282.7	1.48	2	5	-0.1	3	2.8	26
87.194	280.2	1.42	2	6	-0.1	3	2.5	26
87.207	283.7	1.32	2	4	0.0	3	3.0	26
87.194	282.2	1.41	3n		2.8			26-Inch

4712 A 1953 06 07.5 +07 54

85.179	67.8	0.30	2	5	-0.1	3	0.8	26
85.203	78.0	0.50	2	4	-0.2	3	0.7	26
87.114	85.6	0.31	2	7	0.0	3	0.5	26
87.177	63.2	0.26	2	6	0.0	3		26
86.168	73.6	0.34	4n		0.7			26-Inch

Difficult.

4730 STF 849 06 08.7 +17 24

80.095	243.6	0.99	2	5	-0.1	3	0.6	26
80.120	243.0	1.01	2	7	-0.2	3	0.5	26
80.172	241.2	1.07	2	4	-0.2	3	0.4	26
80.129	242.6	1.02	3n		0.5			26-Inch

HU 1573 06 08.9 -52 08

83.143	155.9	0.21	2	7	+0.9	3	0.6	36
83.145	166.5	0.21	2	6	+0.8	3	0.8	36
83.148	158.9	0.24	2	8	+0.6	3	0.2	36
83.145	160.4	0.22	3n		0.5			36-Inch

Apparently more than a revolution has been observed, but with poor coverage.

4750 A 54 06 09.8 +29 14

77.185	337.2	0.47	1	6	-0.1	3	1.2	26
77.188	337.6	0.51	4	7	+0.1	4	1.3	26
78.083	341.7	0.43	2	5	+0.1	3	1.5	26
77.485	338.8	0.47	3n		1.3			26-Inch

4752 A 2514 06 09.8 +16 30

80.120	88.5	0.24	2	7	-0.2	3	0.3	26
81.100	92.8	0.25	2	6	0.0	4	0.2	26
85.080	91.3	0.22	2	7	-0.1	3	0.0	26
85.140	92.1	0.28	2	6	+0.1	4	0.0	26
82.860	91.2	0.25	4n		0.1			26-Inch

Quadrant uncertain. Either a half or a whole revolution has occurred since discovery.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

	FIN 18			06 10.4 -39 38							
83.173	42.3	1.41	2	5	+0.5	2	0.3	60			
83.176	40.9	1.31	2	8	+0.8	2	0.2	60			
83.174	41.6	1.36	2n	0.2	60-Inch						
4754	A 1572			06 10.9 +53 30							
78.083	105.8	0.94	2	5	0.0	3	0.7	26			
78.108	104.1	0.94	2	5	-0.2	3	0.8	26			
78.127	104.0	0.98	2	5	+0.1	3	1.0	26			
78.106	104.6	0.95	3n	0.8	26-Inch						
	FIN 96			06 11.1 -58 18							
83.143	41.7	2.10	2	7	+1.0	3	1.5	36			
83.145	39.4	2.08	2	6	+0.8	3	1.6	36			
83.144	40.6	2.09	2n	1.6	36-Inch						
4797	A 3022			06 11.5 -16 49							
83.156	1.5	1.13	2	5	+0.3	3	0.2	36			
83.159	1.3	0.99	2	6	+0.4	3	0.0	36			
83.158	1.4	1.06	2n	0.1	36-Inch						
4786	A 55			06 11.6 +28 46							
77.106	277.7	0.41	2	5	+0.1	3	0.3	26			
77.108	275.0	0.35	2	7	+0.2	4	0.5	26			
77.133	277.7	0.41	2	7	+0.2	4	0.7	26			
77.116	276.8	0.39	3n	0.5	26-Inch						
4817	B 104			06 12.3 -25 14							
83.154	183.7	0.99	2	6	+0.6	3	0.8	36			
83.156	185.5	1.08	2	5	+0.3	3	0.8	36			
83.155	184.6	1.04	2n	0.8	36-Inch						
	RST 4295			06 13.0 -02 38							
80.120	290.9	0.29	2	5	-0.1	3	0.4	26			
85.162	289.7	0.29	2	5	-0.1	4	0.4	26			
85.179	289.8	0.35	2	5	0.0	3	0.5	26			
83.487	290.1	0.31	3n	0.4	26-Inch						
4823	HO 22			06 13.4 +10 14							
85.203	207.6	0.86	2	4	+0.1	3	0.3	26			
85.214	206.5	0.96	2	5	+0.1	3	0.2	26			
87.114	207.9	0.84	2	7	0.0	3	0.2	26			
87.177	208.2	0.96	2	6	-0.1	3	0.2	26			
86.177	207.6	0.90	4n	0.2	26-Inch						
4833	A 2515			06 14.0 +12 16							
77.133	14.2	0.40	1	6	0.0	4	0.4	26			
77.169	19.1	0.34	2	6	-0.1	4	0.2	26			
77.185	14.0	0.36	1	6	-0.1	3	0.2	26			
77.188	19.2	0.33	1	7	+0.1	4	0.1	26			
85.080	13.8	0.39	2	7	0.0	3	0.3	26			
85.140	12.7	0.33	1	6	+0.1	4	0.4	26			
85.162	10.2	0.35	1	5	0.0	4	0.2	26			
77.169	16.6	0.36	4n	0.2	26-Inch						
85.127	12.2	0.36	3n	0.3	26-Inch						
4847	A 3025			06 14.3 -17 29							
83.159	117.3	0.62	2	5	+0.4	3	1.0	36			
83.162	121.5	0.79	2	5	+0.5	3	0.7	36			
83.160	119.4	0.70	2n	0.8	36-Inch						
Closing in.											
	KUI 24			06 14.4 +17 54							
80.095	140.6	0.55	2	6	-0.2	3	0.1	26			
81.100	135.9	0.47	2	6	-0.1	4	0.0	26			
85.140	138.9	0.46	2	7	+0.2	4	0.0	26			
82.112	138.5	0.49	3n	0.0	26-Inch						
	RST 4803			06 14.8 -36 57							
83.173	98.6	0.34	2	6	+0.6	2	0.2	60			
83.176	96.0	0.35	2	8	+0.8	2	0.4	60			
83.174	97.3	0.34	2n	0.3	60-Inch						
4856	A 2717			06 15.2 +06 31							
78.149	351.0	0.40	1	5	0.0	3	0.2	26			
79.159	348.4	0.35	1	4	-0.3	3	0.2	26			
79.181	350.0	0.43	1	7	-0.2	3	0.2	26			
78.830	349.8	0.39	3n	0.2	26-Inch						
4871	B 109			06 15.3 -24 32							
83.154	284.1	1.27	2	5	+0.7	3	0.6	36			
83.156	282.7	1.31	2	5	+0.4	3	0.8	36			
83.155	283.4	1.29	2n	0.7	36-Inch						
	RST 5225			06 15.9 +01 10							
76.966	179.8	0.22	1	5	0.0	4	0.0	26			
77.108	180.4	0.22	1	6	+0.2	4	0.0	26			
77.133	182.9	0.15	1	6	+0.1	4	0.0	26			
77.185	175.0	0.17	1	6	-0.1	3	0.0	26			
77.098	179.5	0.19	4n	0.0	26-Inch						
Heintz, 1975: -4.5, -0.01.											

B 2108 06 16.5 -43 38

83.148	97.2	0.24	2	7	+0.6	3			36
83.151	95.6	0.27	2	7	+0.7	3	0.2		36
83.150	96.4	0.26	2n		0.2				36-Inch

This is the only measure.

HU 1408 06 19.4 -42 30

83.145	24.7	0.22	2	5	+0.8	3			36
83.148	22.5	0.25	2	8	+0.6	3	0.2		36
83.146	23.6	0.24	2n		0.2				36-Inch

4934 HU 453 06 19.8 +20 26

78.127	291.2	0.29	2	5	0.0	3	0.7		26
79.181	295.1	0.36	2	6	-0.2	3	0.6		26
79.206	297.7	0.34	2	5	0.0	3	0.8		26
78.838	294.7	0.33	3n		0.7				26-Inch

This, and the 1983 measure by Heintz, show that the pair has closed in and is now in rapid motion.

4929 BU 895 06 19.9 +28 26

77.188	112.8	0.17	3	7	+0.1	4	0.0		26
78.083	111.4	0.17	2	5	0.0	3	0.0		26
78.097	106.9	0.18	2	7	-0.1	3	0.0		26
78.127	105.7	0.19	2	6	0.0	3	0.0		26
77.874	109.2	0.18	4n		0.0				26-Inch

Muller, 1957: -6.0, -0.02.
Zulevic, 1971: +7.3, +0.01.

4971 A 2667 06 21.4 +02 16

79.181	158.6	0.34	1	6	-0.1	3	1.2		26
79.206	154.3	0.31	1	5	+0.1	3	0.7		26
79.219	161.8	0.26	1	4	+0.2	3	0.7		26
85.162	167.8	0.25	1	5	-0.1	4	0.5		26
85.179	175.3	0.31	1	5	0.0	3	0.6		26
85.214	174.2	0.24	1	5	0.0	3	0.4		26
79.202	158.2	0.30	3n		0.9				26-Inch
85.185	172.4	0.27	3n		0.5				26-Inch

Scardia, 1983: +0.3, -0.01; -2.8, 0.00.

4987 HU 1241 06 21.7 -14 24

83.154	83.6	0.76	2	7	+0.7	3	0.3		36
83.156	84.7	0.65	2	5	+0.5	3	0.2		36
83.162	85.6	0.69	2	5	+0.5	3	0.3		36
83.157	84.6	0.70	3n		0.3				36-Inch

4950 STF 881 06 22.1 +59 22

77.207	133.0	0.56	3	4	-0.1	3	1.4		26
78.064	129.2	0.63	2	5	0.0	3	1.5		26
78.083	134.4	0.51	2	6	-0.2	3	1.1		26
78.097	133.0	0.71	2	7	0.0	3	1.2		26
77.863	132.4	0.60	4n		1.3				26-Inch

4995 A 3027 BC 06 22.4 -16 44

83.154	243.7	1.48	2	7	+0.7	3	0.6		36
83.156	245.2	1.39	2	4	+0.7	3	0.8		36
83.155	244.4	1.44	2n		0.7				36-Inch

4997 HO 233 06 23.3 +16 31

87.177	33.9	2.14	2	6	-0.2	3	1.8		26
87.180	33.4	2.17	2	5	-0.1	3	3.0		26
87.194	34.8	2.20	2	6	-0.1	3	2.6		26
87.184	34.0	2.17	3n		2.5				26-Inch

5000 OL 06 23.3 +22 09

87.177	40.7	4.98	2	6	-0.1	3	1.0		26
87.180	41.4	5.52	2	5	-0.1	3	0.8		26
87.194	44.2	4.82	2	6	0.0	3	0.8		26
87.184	42.1	5.11	3n		0.9				26-Inch

5019 DAW 120 06 23.4 -30 01

83.173	99.1	0.14	2	7	+0.6	2	0.0		60
83.176	105.6	0.13	2	8	+0.8	2			60
83.174	102.4	0.14	2n		0.0				60-Inch

The pair has closed in. Lack of any measures in the 40 years 1936-1976 prevents interpretation of the motion.

5017 A 669 06 23.8 -09 21

83.154	27.9	0.21	2	6	+0.8	3	0.0		36
83.159	31.9	0.18	2	6	+0.4	3	0.0		36
83.156	29.9	0.20	2n		0.0				36-Inch

5037 I 753 06 24.3 -28 01

83.173	300.7	0.17	2	6	+0.6	2	0.4		60
83.176	300.8	0.18	2	8	+0.9	2	0.2		60
83.174	300.8	0.18	2n		0.3				60-Inch

5014 HU 702 06 24.6 +34 24

80.095	330.3	1.03	2	6	-0.2	3	0.5		26
81.095	326.7	0.83	2	5	+0.1	3	0.5		26
81.100	328.2	1.01	2	6	0.0	4	0.6		26
80.763	328.4	0.96	3n		0.5				26-Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

5016 A 2356 06 25.0 +42 33

80.095	82.2	0.86	2	6	-0.2	3	0.2	26
81.095	83.0	0.91	2	5	0.0	3	0.2	26
81.100	84.4	0.91	2	6	-0.2	4	0.1	26
80.763	83.2	0.89	3n		0.2		26-Inch	

5045 A 324 06 25.1 -04 26

76.966	175.2	1.20	1	5	0.0	4	0.1	26
77.133	175.7	1.07	1	6	0.0	4	0.0	26
77.169	177.1	1.09	1	7	-0.1	3	0.2	26
77.089	176.0	1.12	3n		0.1		26-Inch	

5044 A 2669 06 25.2 +03 00

75.172	252.5	0.26	2	7	0.0	3	1.0	26
75.175	256.1	0.25	3	7	-0.2	4	1.4	26
77.133	261.0	0.26	2	7	0.0	4	1.2	26
77.185	265.2	0.29	2	6	-0.2	3	1.2	26
77.188	256.6	0.23	3	6	0.0	4	1.4	26
76.371	258.3	0.26	5n		1.2		26-Inch	

5048 BU 569 06 25.2 -10 56

83.170	118.4	1.87	2	3	+0.3	2	2.8	60
83.176	114.7	1.74	2	8	+1.0	2	2.5	60
83.184	116.4	1.86	2	6	+0.8	2	2.5	60
83.177	116.5	1.82	3n		2.6		60-Inch	

5043 A 2812 06 25.3 +08 01

77.169	0.5	0.47	1	5	-0.1	4	0.6	26
77.185	7.7	0.53	1	5	0.0	3	0.2	26
77.188	7.7	0.55	1	7	+0.1	4	0.2	26
77.181	5.3	0.52	3n		0.3		26-Inch	

FIN 343 06 25.3 +01 30

85.080	2.9	0.20	4	7	0.0	4		26
85.140	356.1	0.20	2	7	0.0	4	0.0	26
85.162	1.1	0.24	2	5	0.0	4	0.0	26
87.114	351.4	0.20	1	7	-0.1	1		26
85.624	357.9	0.21	4n		0.0		26-Inch	

Atmospheric dispersion makes pairs of this nature difficult.

5032 HU 831 06 25.4 +35 44

78.127	282.1	0.29	2	5	+0.1	3	0.2	26
78.149	279.0	0.22	2	5	0.0	3	0.0	26
79.181	288.4	0.24	2	6	0.0	3	0.1	26
78.486	283.2	0.25	3n		0.1		26-Inch	

5051 J 260 06 25.7 +07 45

79.181	180.0	1.60	1	6	-0.1	3	1.0	26
79.206	181.3	1.67	1	5	+0.1	3	2.0	26
79.219	182.0	1.63	1	5	+0.1	3	2.0	26
79.202	181.1	1.63	3n		1.7		26-Inch	

HU 1411 06 25.7 -55 10

83.151	117.9	0.42	2	5	+0.7	3	0.3	36
83.154	111.5	0.44	2	5	+0.9	3	0.5	36
83.152	114.7	0.43	2n		0.4		36-Inch	

5053 A 2723 06 25.8 +07 47

79.181	22.3	0.83	1	6	0.0	3	0.6	26
79.206	23.7	0.68	1	5	+0.2	3	0.8	26
79.219	24.8	0.78	2	5	+0.2	3	0.8	26
79.202	23.6	0.76	3n		0.7		26-Inch	

5069 STF 910 BC 06 26.7 +00 27

85.080	147.6	0.35	2	7	0.0	4	0.5	26
85.140	143.0	0.38	2	7	0.0	4	0.6	26
85.162	142.6	0.39	2	5	0.0	4	0.4	26
85.127	144.4	0.37	3n		0.5		26-Inch	

FIN 98 06 26.8 -58 14

83.143	336.3	0.15	2	7	+0.8	3		36
83.145	335.2	0.20	2	5	+0.8	3		36
83.144	335.8	0.18	2n				36-Inch	

5092 B 114 06 27.4 -25 45

83.173	275.9	0.28	2	7	+0.7	2	0.2	60
83.184	279.7	0.35	2	6	+0.7	2	0.2	60
83.178	277.8	0.32	2n		0.2		60-Inch	

Heintz, 1979: -1.2, +0.02.

5078 A 1732 06 28.8 +52 26

78.064	15.8	3.79	1	5	0.0	3	3.5	26
78.083	10.6	3.81	2	5	0.0	3	3.5	26
78.097	15.2	3.52	2	7	0.0	3	3.2	26
78.081	13.9	3.71	3n		3.4		26-Inch	

FIN 99 06 29.5 -54 25

83.143	169.3	1.39	2	7	+0.8	3	1.2	36
83.145	170.0	1.32	2	5	+0.9	3	1.6	36
83.144	169.6	1.36	2n		1.4		36-Inch	

	R 65 AB								06 29.9 -50 14
80.249	278.8	0.51	2	8	+0.8	3	0.2	36	
80.251	279.2	0.63	2	5	+0.8	3	0.4	36	
80.254	278.6	0.54	2	6	+0.6	3	0.3	36	
80.257	279.2	0.58	2	6	+0.8	3	0.2	36	
83.143	275.9	0.65	2	8	+1.0	3		36	
83.145	278.5	0.66	2	6	+1.1	3	0.2	36	
83.148	277.2	0.65	2	7	+0.8	3	0.2	36	
80.253	279.0	0.56	4n		0.3		36-Inch		
83.145	277.2	0.65	3n		0.2		36-Inch		

Heintz, 1978: +2.0, -0.08; +2.1, -0.06.

	HDO 195 CD								
80.249	190.2	0.42	2	8	+0.9	3	0.2	36	
80.251	192.1	0.46	2	4	+0.9	3	0.2	36	
80.254	189.6	0.43	2	5	+0.7	3	0.2	36	
80.257	189.5	0.40	2	6	+0.9	3	0.2	36	
83.143	201.7	0.46	2	7	+1.2	3	0.2	36	
83.145	204.4	0.40	2	7	+1.2	3		36	
83.148	203.1	0.45	2	8	+0.9	3	0.2	36	
80.253	190.4	0.43	4n		0.2		36-Inch		
83.145	203.1	0.44	3n		0.2		36-Inch		

Heintz, 1968: +1.1, -0.04; +3.1, -0.01.

5121 STT 141 06 30.0 +17 54

77.185	143.4	2.22	2	6	-0.1	3	1.8	26	
77.207	143.4	2.32	4	4	-0.1	3	2.0	26	
78.064	142.9	2.20	2	6	+0.1	3	1.3	26	
78.127	143.3	2.21	2	5	+0.1	3	2.2	26	
77.646	143.2	2.24	4n		1.8		26-Inch		

5159 A 2817 06 31.4 +07 50

77.133	261.7	0.19	4	6	0.0	4	0.0	26	
77.169	270.2	0.20	2	6	-0.1	3	0.0	26	
77.185	274.9	0.17	2	7	0.0	4	0.0	26	
77.188	263.4	0.19	2	7	0.0	4	0.0	26	
87.194	79.9	0.20	2	6	0.0	3	0.0	26	
87.213	76.9	0.22	2	5	0.0	3		26	
87.224	58.6	0.19	2	7	+0.1	3	0.0	26	
77.169	267.6	0.19	4n		0.0		26-Inch		
87.210	71.8	0.20	3n		0.0		26-Inch		

Baize, 1958: +6.8, 0.00; -6.8, +0.05.

5155 A 2117 06 31.8 +31 31

81.100	50.4	1.54	2	6	0.0	4	0.8	26	
85.162	52.6	1.45	2	5	0.0	4	1.0	26	
85.179	48.7	1.49	2	5	-0.1	3	1.2	26	
83.814	50.6	1.49	3n		1.0		26-Inch		

	WOR 6								06 32.3 +52 25
78.064	115.1	0.51	2	5	0.0	3	0.0	26	
78.083	114.8	0.57	2	5	0.0	3	0.2	26	
78.097	115.8	0.55	2	7	0.0	3		26	
78.149	114.7	0.51	2	5	0.0	3	0.2	26	
78.098	115.1	0.54	4n		0.1		26-Inch		

Baize, 1986: +7.7, +0.09.

	BU 98								06 32.7 -05 20
83.170	150.2	0.67	2	3	+0.3	2		60	
83.173	152.4	0.74	2	6	+0.7	2	0.2	60	
83.172	151.3	0.70	2n		0.2		60-Inch		

5197 STF 932 06 34.3 +14 44

77.207	316.6	1.77	2	4	-0.1	3	0.2	26	
78.064	314.9	1.90	2	6	+0.2	3	0.1	26	
78.083	315.3	1.85	2	5	0.0	3	0.0	26	
77.785	315.6	1.84	3n		0.1		26-Inch		

Hopmann, 1960: +3.6, +0.06.

5212 HO 234 06 34.5 -11 14

80.243	329.8	0.41	2	6	+0.6	3	0.3	36	
80.246	328.6	0.35	3	5	+0.7	3	0.2	36	
80.249	327.5	0.33	2	8	+0.6	3	0.2	36	
83.170	333.2	0.37	2	4	+0.4	2		60	
83.173	336.7	0.35	2	6	+0.8	2	0.3	60	
83.176	333.7	0.39	1	8	+0.9	2	0.2	60	
80.244	328.6	0.36	3n		0.2		36-Inch		
83.173	334.5	0.37	3n		0.2		60-Inch		

Heintz, 1979: +0.3, -0.02; +1.5, -0.02.

	BU 754								06 34.7 -34 01
80.224	48.2	1.03	2	8	+0.7	3	0.2	60	
80.227	48.4	0.99	2	7	+0.5	3	0.3	60	
80.226	48.3	1.01	2n		0.2		60-Inch		

5203 HU 1242 06 35.2 +34 56

75.175	120.4	0.93	1	7	0.0	4	2.8	26	
75.208	118.5	0.88	3	7	+0.2	3	1.8	26	
77.169	122.9	1.07	3	7	-0.1	3	2.4	26	
75.851	120.6	0.96	3n		2.3		26-Inch		

FIN 19 06 35.9 -36 05

80.224	359.2	0.18	2	8	+0.5	3	0.0	60
80.227	5.4	0.17	2	7	+0.6	3	0.5	60
80.230	5.2	0.18	2	5	+0.4	3	0.4	60
83.151	354.7	0.29	2	7	+0.7	3	0.4	36
83.154	354.4	0.23	2	5	+0.9	3	0.2	36
83.162	353.3	0.28	2	5	+0.7	3	0.4	36
80.227	3.3	0.18	3n	0.4				60-Inch
83.156	354.1	0.27	3n	0.3				36-Inch

Finsen, 1977: +5.1,-0.01; +5.5, +0.01.

5231 HO 341 06 36.1 +13 41

87.114	127.2	2.09	2	8	-0.2	3	5.0	26
87.177	132.2	2.61	2	6	-0.2	3	3.5	26
87.194	132.5	2.18	2	7	0.0	3	4.0	26
87.162	130.6	2.29	3n	4.2				26-Inch

RST 4816 06 36.2 -36 08

83.151	141.7	0.18	2	7	+0.8	3	0.0	36
83.162	144.1	0.18	2	5	+0.8	3		36
83.156	142.9	0.18	2n	0.0				36-Inch

The pair is in rapid motion, but needs annual observation to elicit the nature of the motion.

5234 STT 149 06 36.5 +27 17

78.083	337.6	0.39	2	5	+0.1	3	2.4	26
78.097	340.0	0.46	1	6	0.0	3	1.5	26
78.127	340.1	0.41	2	6	+0.1	3	1.4	26
85.080	324.0	0.49	2	7	0.0	4	1.7	26
85.140	318.4	0.58	2	6	0.0	4	1.4	26
85.162	325.3	0.52	2	5	0.0	4	1.8	26
78.102	339.2	0.42	3n	1.8				26-Inch
85.127	322.6	0.54	3n	1.6				26-Inch

Heintz, 1967: +11.7, -0.16; +7.1, -0.08.
Scardia, 1982: + 7.2, -0.13; +2.3, -0.05.

5244 A 2119 06 36.7 +21 39

76.966	267.6	0.34	2	6	-0.1	4	0.1	26
77.169	269.7	0.33	2	7	-0.1	3	0.1	26
77.185	269.3	0.35	2	6	0.0	4	0.2	26
77.107	268.9	0.34	3n	0.1				26-Inch

RST 4819 06 37.3 -36 59

83.151	6.4	0.58	2	7	+0.9	3	0.7	36
83.154	7.5	0.61	2	4	+1.0	3	1.4	36
83.152	7.0	0.60	2n	1.0				36-Inch

5273 A 2822 06 37.9 +08 56

75.884	122.7	0.73	2	6	+0.1	3	0.1	26
76.966	120.9	0.70	2	5	+0.1	4	0.0	26
77.169	125.4	0.71	2	6	0.0	3	0.2	26
76.673	123.0	0.71	3n	0.1				26-Inch

I 5 06 38.0 -61 32

80.240	269.0	1.57	2	8	+0.7	3	1.8	36
80.243	269.6	1.37	4	6	+0.6	3	2.5	36
80.254	271.2	1.36	2	5	+0.7	3	2.8	36
80.246	269.9	1.43	3n	2.4				36-Inch

5271 A 2452 06 38.1 +19 53

76.966	90.9	0.89	2	6	0.0	4	0.1	26
77.185	92.9	0.85	2	6	0.0	4	0.1	26
77.188	93.5	0.87	2	7	+0.1	4	0.1	26
77.113	92.4	0.87	3n	0.1				26-Inch

5290 STH 06 39.2 +09 39

77.185	282.8	0.70	2	7	+0.1	4	0.2	26
77.188	283.8	0.72	2	7	0.0	4	0.3	26
77.207	284.1	0.60	2	4	-0.1	3	0.0	26
77.193	283.4	0.67	3n	0.2				26-Inch

5276 STF 936 06 39.8 +58 06

79.181	277.0	1.29	2	6	0.0	3	1.3	26
79.219	277.4	1.25	2	5	+0.1	3	1.3	26
80.095	272.8	1.21	2	5	-0.3	3	1.5	26
79.498	275.7	1.25	3n	1.4				26-Inch

5332 A 218 06 41.8 +20 41

87.114	78.4	0.17	2	8	-0.1	3		26
87.194	64.3	0.26	2	7	0.0	3	0.0	26
87.213	70.4	0.24	2	6	-0.1	3		26
87.224	58.4	0.22	2	7	0.0	3		26
87.186	67.9	0.22	4n	0.0				26-Inch

Heintz, 1965: +44.0, +0.09.
The orbit fails. Confirmed by recent speckle.

I 180 06 44.8 -52 25

83.148	340.1	0.67	2	8	+0.8	3	0.5	36
83.151	340.9	0.62	2	5	+0.5	3	0.7	36
83.150	340.5	0.64	2n	0.6				36-Inch

5402 A 219 06 45.0 +30 06

81.100	318.9	2.41	2	6	0.0	4	0.5	26
85.140	318.4	2.26	2	7	+0.1	4	0.2	26
85.162	321.7	2.25	2	5	+0.2	4	0.8	26
83.801	319.7	2.31	3n		0.5			26-Inch

5401 A 2522 06 45.1 +35 55

81.100	251.8	0.71	2	5	-0.1	4	0.1	26
85.140	251.0	0.63	2	6	0.0	4	0.1	26
85.179	249.8	0.68	2	5	-0.3	3	0.2	26
83.806	250.9	0.67	3n		0.1			26-Inch

5400 STF 948 06 46.2 +59 27

78.097	84.7	1.77	2	7	0.0	3	0.3	26
78.127	83.3	1.74	2	6	0.0	3	0.5	26
78.149	84.0	1.85	2	6	-0.2	3	0.3	26
85.162	81.3	1.77	2	6	0.0	4	0.2	26
85.179	81.4	1.77	2	7	-0.2	3	0.2	26
85.203	81.4	1.73	2	5	-0.4	3	0.7	26
78.124	84.0	1.79	3n		0.4			26-Inch
85.181	81.4	1.76	3n		0.4			26-Inch

Brosche, 1957: +4.2, +0.10; +5.2, +0.07.

5429 HO 238 06 46.3 +18 12

79.181	356.0	0.36	2	5	0.0	3	0.1	26
79.206	353.0	0.38	2	5	-0.1	3	0.0	26
79.219	354.9	0.34	2	5	+0.2	3	0.0	26
87.114	175.3	0.43	1	7	0.0	3	0.3	26
87.177	173.2	0.34	1	6	-0.1	3	0.0	26
87.194	175.9	0.36	2	7	0.0	3	0.0	26
87.213	177.2	0.39	2	5	-0.1	3	0.0	26
87.224	180.1	0.38	2	7	+0.1	3	0.2	26
79.202	354.6	0.36	3n		0.0			26-Inch
87.184	176.3	0.38	5n		0.1			26-Inch

Quadrant in doubt.

5442 STN 15 06 46.3 -20 45

83.170	142.7	2.69	2	4	+0.3	2	0.2	60
83.173	141.4	2.49	2	7	+0.7	2	0.1	60
83.184	139.6	2.56	2	5	+0.9	2	0.2	60
83.176	141.2	2.58	3n		0.2			60-Inch

5447 STT 156 06 47.4 +18 12

74.198	252.5	0.59	2	5	+0.1	3	0.2	26
77.207	250.5	0.40	2	5	0.0	3	0.5	26
78.064	250.7	0.40	2	6	0.0	3	0.5	26
78.083	249.4	0.37	2	5	0.0	3	0.2	26
78.127	249.8	0.41	2	5	+0.2	3	0.0	26
79.181	245.3	0.39	2	6	+0.1	3	0.2	26
77.136	250.6	0.43	5n		0.3			26-Inch
79.181	245.3	0.39	1n		0.2			26-Inch

Dommanget, 1953: +6.3, -0.11; -2.6, -0.15.

5455 STT 157 06 47.7 +00 20

78.943	225.7	0.28	2	4	+0.4	3	0.0	26
79.181	215.4	0.29	2	5	+0.2	3	0.3	26
79.206	221.8	0.29	3	5	-0.1	3	0.4	26
79.219	218.3	0.27	2	5	+0.2	3		26
79.137	220.3	0.28	4n		0.2			26-Inch

Heintz, 1973: 0.0, -0.06.

5473 A 3038 BC 06 48.3 -15 20

83.176	314.2	0.12	2	8	+0.9	2		60
83.184	325.3	0.12	2	6	+0.5	2		60
83.180	319.8	0.12	2n					60-Inch

Closed in with little angular change.

5477 A 2935 06 48.5 -12 27

83.170	122.2	0.18	2	4	+0.5	2	0.0	60
83.173	116.1	0.17	2	5	+0.8	2		60
83.184	120.3	0.18	2	6	+0.6	2	0.1	60
83.176	119.5	0.18	3n		0.0			60-Inch

5505 BU 897 06 50.8 -00 33

87.177	25.5	6.45	2	6	-0.1	3	5.0	26
87.213	23.5	6.23	4	5	-0.1	3	6.0	26
87.224	20.7	6.29	1	7	+0.1	3	5.0	26
87.205	23.2	6.32	3n		5.3			26-Inch

5519 A 1956 06 51.5 +03 58

77.108	233.5	0.29	3	7	0.0	4	1.4	26
77.169	230.8	0.27	3	7	-0.1	3	1.0	26
77.188	235.1	0.29	1	6	0.0	4	1.5	26
77.155	233.1	0.28	3n		1.3			26-Inch

5535 A 513 06 52.7 +24 58

78.083	238.9	0.44	2	5	0.0	3	0.0	26
78.127	246.7	0.39	2	5	+0.2	3	0.2	26
78.149	242.8	0.37	2	5	-0.1	3	0.2	26
85.179	223.1	0.36	2	6	0.0	3	0.3	26
85.203	226.5	0.38	2	5	0.0	3	0.3	26
85.214	220.3	0.31	2	5	-0.1	3	0.2	26
78.120	242.8	0.40	3n		0.1			26-Inch
85.199	223.3	0.35	3n		0.3			26-Inch

Heintz, 1963: +6.0, -0.10; +6.3, -0.17.

5514 STF 963 06 53.1 +59 27

78.149	250.1	0.23	2	6	-0.3	3	0.7	26	
79.181	251.2	0.30	2	5	-0.3	3	0.5	26	
79.206	258.7	0.25	2	5	0.0	3	0.6	26	
79.221	250.4	0.29	2	5	0.0	3	0.8	26	
85.179	259.6	0.25	2	6	-0.3	3	0.7	26	
85.203	258.9	0.26	2	4	-0.4	3	0.8	26	
85.214	269.2	0.29	2	5	-0.2	3	0.5	26	
85.233	264.2	0.31	2	7	0.0	3	0.7	26	
78.939	252.6	0.27	4n	0.6				26-Inch	
85.207	263.0	0.28	4n	0.7				26-Inch	

Heintz, 1984: +0.2, -0.07; +0.4, -0.04.
An orbit by Docobo, Costa gives worse residuals.

5557 STF 987 06 54.1 -05 51

80.246	175.0	1.34	1	4	+0.5	3	0.2	36	
80.249	173.9	1.34	1	8	+0.6	3	0.2	36	
80.251	174.4	1.35	1	5	+0.7	3	0.2	36	
80.249	174.4	1.34	3n	0.2				36-Inch	

FIN 100 06 54.2 -62 28

80.240	70.0	0.15	2	8	+0.6	3	0.0	36	
80.243	68.2	0.16	2	6	+0.5	3	0.0	36	
80.242	69.1	0.16	2n	0.0				36-Inch	

No other measures besides the discovery one in 1929. Substantial angular decrease.

5553 STT 160 06 54.4 +21 10

87.114	188.0	1.36	1	7	-0.1	3	3.0	26	
87.177	195.0	1.22	1	6	0.0	3	3.0	26	
87.194	187.4	1.22	1	7	0.0	3	3.0	26	
87.213	194.6	1.30	2	6	0.0	3	3.0	26	
87.174	191.2	1.28	4n	3.0				26-Inch	

B 706 06 54.6 -27 34

83.170	280.2	0.65	2	4	+0.5	2		60	
83.173	282.2	0.54	2	6	+0.6	2	0.3	60	
83.178	284.0	0.61	2	4	+0.8	2	0.3	60	
83.174	282.1	0.60	3n	0.3				60-Inch	

Dommanget, 1979: +0.3, -0.14.

FIN 20 06 55.1 -38 34

83.148	290.9	1.77	2	8	+0.9	3	3.5	36	
83.151	289.6	1.85	2	7	+0.9	3	2.8	36	
83.150	290.2	1.81	2n	3.2				36-Inch	

Increase in separation.

5581 HU 617 06 56.7 +50 00

76.016	211.4	1.09	2	5	0.0	3	0.2	26	
77.108	214.3	0.99	1	7	+0.1	4	0.0	26	
77.133	213.3	0.97	2	6	-0.1	3	0.2	26	
76.752	213.0	1.02	3n	0.1				26-Inch	

5626 I 432 06 56.9 -28 42

83.170	198.7	1.03	2	5	+0.5	2	0.2	60	
83.178	199.6	1.01	2	4	+0.9	2	0.3	60	
83.184	200.3	1.10	2	5	+0.8	2	0.2	60	
83.177	100.5	1.05	3n	0.2				60-Inch	

5586 STT 159 06 57.3 +58 25

77.133	41.7	0.67	1	7	0.0	3	0.6	26	
77.169	39.6	0.72	2	7	0.0	3	0.8	26	
77.185	40.2	0.62	1	6	0.0	4	1.0	26	
77.188	43.8	0.73	4	6	0.0	4	0.5	26	
77.169	41.3	0.68	4n	0.7				26-Inch	

I 65 06 57.3 -35 30

80.224	155.4	0.22	2	8	+0.5	3		60	
80.227	149.4	0.24	2	7	+0.4	3	0.4	60	
80.230	149.3	0.24	2	5	+0.4	3	0.4	60	
83.151	178.3	0.29	2	7	+1.0	3		36	
83.154	172.5	0.27	2	8	+0.8	3		36	
80.227	151.4	0.23	3n	0.4				60-Inch	
83.152	175.4	0.28	2n					36-Inch	

Finsen, 1963: +4.3, -0.02; -1.6, +0.02.

LPM 248 06 57.9 -44 17

83.143	16.7	2.05	2	7	+1.0	3	0.1	36	
83.145	17.8	2.00	2	7	+1.0	3	0.2	36	
83.148	16.4	1.99	2	8	+0.7	3	0.1	36	
83.145	17.0	2.01	3n	0.1				36-Inch	

This pair of M-dwarfs shows considerable decrease in angle and separation.

5647 A 1061 06 59.3 +25 14

76.966	25.9	0.17	3	6	-0.1	4	0.0	26	
77.169	23.6	0.18	2	7	0.0	3	0.2	26	
77.188	24.8	0.17	3	6	+0.1	4	0.2	26	
77.108	24.8	0.17	3n	0.0				26-Inch	

5671 BU 1022 07 00.7 +27 16

77.133	81.7	0.28	2	8	+0.1	3	0.1	26	
77.169	81.9	0.24	2	7	+0.1	3	0.0	26	
77.185	80.9	0.35	2	5	+0.1	4	0.0	26	
77.162	81.5	0.29	3n	0.0				26-Inch	

5695 STF 1011 07 00.8 -15 19

80.246	299.6	4.28	2	5	+0.5	3	0.4	36
80.251	297.8	4.28	2	5	+0.7	3	0.8	36
80.254	299.2	4.29	2	7	+0.5	3	0.8	36
80.250	298.9	4.29	3n		0.7			36-Inch

COU 948 07 01.0 +26 15

87.114	247.0	0.88	2	7	0.0	3	0.5	26
87.194	247.4	0.93	2	7	0.0	3	0.4	26
87.213	248.1	1.00	4	5	0.0	3	0.5	26
87.174	247.5	0.94	3n		0.5			26-Inch

5703 A 671 07 01.3 -09 06

80.254	60.0	0.19	2	7	+0.6	3	0.0	36
80.257	60.7	0.21	2	6	+0.4	3	0.0	36
83.176	54.0	0.17	2	8	+0.7	2	0.2	60
83.184	52.4	0.16	2	6	+0.5	2	0.4	60
80.256	60.4	0.20	2n		0.0			36-Inch
83.180	53.2	0.16	2n		0.3			60-Inch

One quadrant has been described.

5712 BU 573 07 01.8 -10 53

81.100	290.1	1.03	2	5	-0.2	4	0.5	26
83.156	295.5	0.91	2	5	+0.2	3	0.4	36
83.162	294.5	0.87	2	5	+0.7	3	0.4	36
85.179	298.3	0.83	2	5	-0.1	3	0.5	26
85.203	294.9	0.82	2	5	0.0	3	0.3	26
83.159	295.0	0.89	2n		0.4			36-Inch
83.827	294.4	0.89	3n		0.4			26-Inch

5713 HU 112 07 01.8 -11 19

83.156	193.2	0.57	2	5	+0.3	3	0.5	36
83.162	192.5	0.60	2	5	+0.8	3	0.6	36
83.159	192.8	0.58	2n		0.6			36-Inch

KUI 28 07 01.9 -01 21

85.179	251.0	24.59	2	6	0.0	3	3.2	26
85.203	249.6	24.26	2	5	-0.1	3	4.0	26
85.214	249.9	24.40	2	5	-0.1	3	3.0	26
85.199	250.2	24.42	3n		3.4			26-Inch

van den Bos made the only other measure in 1958. A physical pair.

5720 A 2462 07 02.6 +15 58

78.149	243.4	0.21	2	6	0.0	3	0.1	26
79.181	237.3	0.22	2	6	0.0	3	0.0	26
79.206	238.4	0.24	2	7	0.0	3	0.0	26
78.845	239.7	0.22	3n		0.0			26-Inch

Baize, 1976: -6.6, -0.03.
Zulevic, 1973: -9.1, 0.00.

5710 ES 289 07 02.8 +38 56

78.149	101.6	1.97	2	6	0.0	3	0.2	26
78.943	100.1	2.10	2	4	+0.3	3	0.4	26
79.206	102.5	1.97	2	6	0.0	3	0.0	26
78.766	101.4	2.01	3n		0.2			26-Inch

5717 A 1958 07 03.0 +38 37

76.016	164.4	0.62	2	5	0.0	3	0.5	26
76.966	161.1	0.61	2	6	-0.1	4	0.8	26
77.108	161.1	0.56	4	7	+0.2	4	1.2	26
76.697	162.2	0.60	3n		0.8			26-Inch

DUN 39 07 03.2 -59 11

80.227	85.5	1.58	2	8	+0.4	3	0.7	60
80.230	85.2	1.56	2	4	+0.1	3	0.8	60
80.232	89.0	1.60	2	7	0.0	3	1.2	60
80.230	86.6	1.58	3n		0.9			60-Inch

5726 A 1959 07 03.6 +39 40

72.851	337.2	0.24	2	6	0.0	3	0.0	26
74.975	356.1	0.24	2	6	0.0	3	0.0	26
75.175	356.5	0.25	2	6	+0.1	4	0.0	26
75.208	345.7	0.25	3	7	+0.1	3	0.1	26
76.966	2.3	0.23	2	6	0.0	4	0.0	26
77.108	7.7	0.23	2	7	0.0	4	0.0	26
79.206	17.1	0.15	2	7	+0.1	3	0.0	26
72.851	337.2	0.24	1n		0.0			26-Inch
75.119	352.8	0.25	3n		0.0			26-Inch
77.037	5.0	0.23	2n		0.0			26-Inch
79.206	17.1	0.15	1n		0.0			26-Inch

Couteau, 1987: + 7.1, -0.01; +10.5, 0.00; +23.0, 0.00; + 4.4; -0.03.

Morel's and Costa,Docobo's orbits not only fail to represent the motion, but actually predict motion in the opposite direction!

J 1828 07 04.0 -09 13

80.251	171.2	5.51	1	5	+0.9	3	0.6	36
80.254	171.2	5.57	1	8	+0.6	3	0.7	36
80.252	171.2	5.54	2n		0.6			36-Inch

5724 A 1324 07 04.2 +56 26

79.206	180.0	0.26	2	6	+0.2	3	0.1	26
85.162	177.0	0.29	2	5	-0.1	4		26
85.179	184.9	0.30	2	7	0.0	3	0.0	26
83.182	180.6	0.28	3n		0.0			26-Inch

5752 A 519 07 04.4 -03 03

80.246	281.0	0.36	2	5	+0.6	3	0.2	36
80.249	277.7	0.38	4	8	+0.5	3	0.3	36
80.251	279.4	0.40	2	5	+0.7	3	0.3	36
80.249	279.4	0.38	3n	0.3			36-Inch		

van den Bos, 1959: +3.0, -0.02.

5769 A 1741 07 05.2 -00 52

80.251	26.5	1.03	2	5	+0.8	3	0.4	36
80.254	26.0	1.02	2	8	+0.7	3	0.8	36
80.257	27.7	1.04	2	6	+0.5	3	0.4	36
81.100	23.2	1.06	2	5	-0.1	4	0.5	26
85.140	26.2	1.01	2	7	0.0	4	0.2	26
85.179	22.1	1.02	2	5	+0.1	3	0.3	26
80.254	26.7	1.03	3n	0.5			36-Inch		
83.806	23.8	1.03	3n	0.3			26-Inch		

HEI 125 07 08.4 +16 39

85.233	210.8	0.24	2	7	0.0	3	0.5	26
87.114	218.4	0.29	2	7	0.0	3		26
87.194	205.7	0.26	2	7	0.0	3	0.0	26
87.224	216.0	0.19	2	7	0.0	3	0.6	26
86.691	212.7	0.24	4n	0.4			26-Inch		

5822 A 2845 07 08.9 +10 02

81.100	313.8	1.69	2	5	0.0	4	2.8	26
85.140	312.1	1.76	2	6	0.0	4	2.8	26
85.162	317.2	1.62	2	5	0.0	4	3.2	26
83.801	314.4	1.69	3n	2.9			26-Inch		

I 184 07 09.2 -60 35

83.148	146.8	0.28	2	8	+0.8	3	0.2	36
83.162	151.4	0.28	2	5	+0.4	3		36
83.155	149.1	0.28	2n	0.2			36-Inch		

FIN 102 07 09.2 -61 08

80.224	75.0	0.31	2	7	+0.5	3		60
80.227	73.6	0.28	2	7	+0.4	3	0.2	60
80.226	74.3	0.30	2n	0.2			60-Inch		

Slow angular increase.

HEI 127 07 09.5 +16 08

87.114	103.6	1.50	2	7	0.0	3	0.0	26
87.194	104.2	1.34	2	6	0.0	3	0.0	26
87.213	102.1	1.65	4	5	-0.1	3	0.0	26
87.224	103.4	1.44	2	7	0.0	3	0.1	26
87.186	103.3	1.48	4n	0.0			26-Inch		

B 1532 07 10.5 -29 21

80.246	336.2	0.82	2	5	+0.6	3	0.6	36
80.249	335.8	0.77	2	8	+0.5	3	0.4	36
80.248	336.0	0.80	2n	0.5			36-Inch		

5857 A 2122 07 11.2 -10 33

83.170	86.7	0.16	2	5	+0.5	2	0.0	60
83.173	79.6	0.14	2	5	+0.6	2		60
83.176	87.4	0.15	2	7	+0.7	2		60
83.173	84.6	0.15	3n	0.0			60-Inch		

I 1504 07 11.7 -51 18

80.232	21.3	0.14	2	6	0.0	3		60
80.232	21.3	0.14	1n				60-Inch		

HDO 199 07 12.0 -63 11

80.227	118.2	0.32	2	7	+0.5	3	0.2	60
80.230	117.6	0.34	2	4	+0.1	3	0.3	60
80.232	119.8	0.33	2	6	+0.1	3	0.5	60
80.230	118.5	0.33	3n	0.3			60-Inch		

5867 A 2847 07 12.1 +06 22

79.219	312.9	0.31	2	5	-0.1	3	0.2	26
81.100	304.2	0.36	2	5	0.0	4	0.0	26
81.229	308.2	0.40	2	8	-0.1	3	0.3	26
80.516	308.4	0.36	3n	0.2			26-Inch		

5871 STF 1037 07 12.8 +27 14

77.207	324.5	1.28	2	5	-0.4	3	0.0	26
78.097	321.8	1.35	2	6	-0.2	3	0.2	26
78.127	321.9	1.24	2	6	0.0	3	0.2	26
78.149	321.7	1.19	2	6	0.0	3	0.0	26
85.179	321.0	1.36	2	6	0.0	3	0.2	26
85.203	317.2	1.25	2	5	0.0	3	0.0	26
85.214	319.7	1.26	2	5	-0.1	3	0.1	26
85.233	319.0	1.23	2	7	-0.5	3	0.2	26
77.895	322.5	1.26	4n	0.1			26-Inch		
85.207	319.2	1.28	4n	0.1			26-Inch		

Karmel, 1939: +0.9, -0.06; +0.6, -0.02.
Scardia, 1983: +0.9, +0.02; +0.3, +0.06.

5900 A 2525 07 13.8 +17 56

76.966	102.8	0.98	2	5	0.0	4	2.0	26
77.108	102.7	0.91	2	7	+0.1	4	1.5	26
77.133	102.4	1.03	2	8	0.0	3	1.2	26
77.069	102.6	0.97	3n	1.6			26-Inch		

5893 STT 520 07 13.9 +28 30

78.127	13.8	0.58	1	5	0.0	3	2.0	26	
78.149	13.8	0.48	4	5	0.0	3	1.2	26	
79.181	15.1	0.72	2	7	0.0	3	1.6	26	
79.206	20.0	0.46	2	7	+0.1	3	1.1	26	
85.214	21.4	0.59	2	5	-0.1	3	1.6	26	
85.233	18.8	0.61	2	7	-0.4	3	1.0	26	
87.114	17.3	0.62	4	7	0.0	3	0.8	26	
87.194	16.4	0.56	2	7	0.0	3	0.6	26	
78.666	15.7	0.56	4n		1.5			26-Inch	
86.189	18.5	0.60	4n		1.0			26-Inch	

5908 A 2526 BC 07 14.3 +15 46

79.206	339.1	0.43	2	5	+0.1	3	0.2	26	
81.229	342.4	0.53	2	7	0.0	3	0.4	26	
81.232	340.7	0.51	2	5	0.0	3	0.3	26	
80.556	340.7	0.49	3n		0.3			26-Inch	

FIN 323 07 14.3 -26 21

80.227	133.2	0.12	2	7	-0.2	3	0.0	60	
80.230	135.0	0.13	2	4	-0.4	3	0.0	60	
80.232	134.9	0.13	2	7	-0.3	3	0.0	60	
80.230	134.4	0.13	3n		0.0			60-Inch	

5925 BU 575 07 14.8 -15 28

80.257	270.6	0.58	2	6	+0.4	3	0.0	36	
83.170	269.7	0.68	2	4	+0.5	2		60	
83.173	269.2	0.72	2	4	+0.6	2	0.4	60	
80.257	270.6	0.58	1n		0.0			36-Inch	
83.172	269.4	0.70	2n		0.4			60-Inch	

Mourao, 1966: -1.4, -0.14; -4.6, -0.02.

5918 BU 1023 07 15.2 +25 53

76.016	304.8	0.36	2	5	-0.1	3	0.3	26	
76.966	302.6	0.40	2	6	-0.1	4	0.3	26	
77.108	302.4	0.33	2	7	+0.2	4	0.2	26	
76.697	303.3	0.36	3n		0.3			26-Inch	

5927 ROE 25 07 15.4 +12 21

85.233	8.2	3.18	2	7	-0.1	3	0.6	26	
87.213	6.8	3.17	1	5	-0.1	3	1.5	26	
87.224	7.2	3.01	1	7	-0.1	3	0.6	26	
86.557	7.4	3.12	3n		0.9			26-Inch	

I 312 07 15.5 -75 52

80.240	156.1	0.90	2	8	+0.3	3	0.0	36	
80.243	157.6	0.83	2	7	+0.2	3	0.0	36	
80.242	156.8	0.86	2n		0.0			36-Inch	

5949 A 2855 07 16.8 +00 58

77.169	327.1	0.25	2	6	-0.1	3	0.0	26	
77.188	325.4	0.28	4	6	0.0	4	0.0	26	
78.127	312.9	0.28	2	4	0.0	3	0.0	26	
78.149	310.6	0.24	2	5	0.0	3	0.0	26	
78.239	320.2	0.26	3	6	0.0	3	0.2	26	
77.774	319.2	0.26	5n		0.0			26-Inch	

Heintz, 1968: -6.3, -0.07.

5956 A 2123 07 17.1 -12 02

83.156	147.4	0.23	2	6	+0.2	3	0.0	36	
83.162	144.5	0.25	2	5	+0.6	3	0.0	36	
83.159	146.0	0.24	2n		0.0			36-Inch	

Baize, 1980: - 8.7, +0.12.
Scardia, 1983: -16.7, +0.11.

5952 A 2856 07 17.5 +13 23

85.233	303.6	0.40	2	7	0.0	3	0.3	26	
87.114	303.1	0.55	2	7	0.0	3	0.0	26	
87.194	305.4	0.49	2	7	0.0	3	0.0	26	
86.514	304.0	0.48	3n		0.1			26-Inch	

I 7 07 17.5 -47 00

83.143	214.5	0.89	2	6	+0.7	3	0.8	36	
83.145	215.3	1.01	2	7	+0.8	3	1.0	36	
83.148	214.5	0.83	2	8	+0.7	3	0.8	36	
83.145	214.8	0.91	3n		0.9			36-Inch	

Valbousquet, 1981: +3.8, +0.04.

5970 A 526 07 18.4 -03 37

79.219	167.9	0.36	1	4	-0.1	3	0.0	26	
80.246	167.8	0.37	1	4	+0.6	3		36	
80.249	163.8	0.36	1	8	+0.5	3	0.2	36	
80.251	165.2	0.37	2	5	+0.8	3	0.2	36	
81.229	170.9	0.42	1	7	+0.2	3	0.1	26	
80.224	169.4	0.39	2n		0.0			26-Inch	
80.249	165.6	0.37	3n		0.2			36-Inch	

5978 A 2860 07 19.6 +13 43

79.219	104.1	0.44	2	5	0.0	3	0.5	26	
81.229	100.3	0.52	2	7	+0.1	3	0.8	26	
81.232	101.6	0.48	2	5	-0.2	3	0.8	26	
80.560	102.0	0.48	3n		0.7			26-Inch	

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

5996	STF 1074			07 20.5 +00 25				
77.207	167.8	0.56	1	5	-0.3	3	0.4	26
78.127	167.5	0.56	1	4	0.0	3	0.4	26
78.149	165.4	0.51	1	5	+0.1	3	0.4	26
78.239	169.4	0.54	1	5	-0.1	3	0.3	26
87.213	169.7	0.85	2	6	-0.1	3	0.4	26
87.224	169.4	0.61	1	7	0.0	3	0.2	26
87.232	172.7	0.59	1	6	-0.2	3	0.4	26
77.930	167.5	0.54	4n	0.4	26-Inch			
87.223	170.6	0.68	3n	0.3	26-Inch			
6006	STF 1076			07 21.1 +04 04				
78.127	108.5	2.90	2	5	0.0	3	0.1	26
78.149	107.7	2.76	2	5	+0.1	3	0.1	26
78.239	108.5	2.93	2	6	+0.1	3	0.0	26
78.172	108.2	2.86	3n	0.1	26-Inch			
6014	A 1743			07 22.5 +46 20				
76.016	273.8	1.14	2	5	-0.1	3	1.8	26
76.966	274.9	1.23	2	6	-0.1	4	2.4	26
77.108	271.5	1.24	2	7	+0.1	4	2.0	26
76.697	273.4	1.20	3n	2.1	26-Inch			
6020	HO 243			07 22.6 +29 16				
79.181	172.3	2.40	2	7	0.0	3	0.4	26
79.206	169.9	2.41	2	6	+0.2	3	0.2	26
79.219	170.8	2.35	2	5	+0.1	3	0.0	26
79.202	171.0	2.39	3n	0.2	26-Inch			
6029	A 3047			07 23.0 -07 06				
83.162	57.7	2.03	2	5	+0.7	3	1.6	36
83.170	57.0	1.93	2	4	+0.5	2	2.2	60
83.173	55.2	1.87	2	6	+0.7	2	1.6	60
83.162	57.7	2.03	1n	1.6	36-Inch			
83.172	56.1	1.90	2n	1.9	60-Inch			
6023	BU 1024			07 23.1 +29 19				
79.181	103.0	1.50	2	7	-0.1	3	2.0	26
79.206	100.3	1.22	2	6	+0.1	3	1.8	26
79.219	100.1	1.50	2	5	0.0	3	1.5	26
79.202	101.1	1.41	3n	1.8	26-Inch			
6055	A 2865			07 24.6 +05 16				
81.232	103.6	0.72	2	5	-0.1	3	0.8	26
85.140	102.1	0.78	2	6	-0.1	4	0.3	26
85.162	108.4	0.55	2	5	-0.2	4	1.5	26
85.179	104.2	0.69	2	5	0.0	3	0.8	26
84.178	104.6	0.68	4n	0.8	26-Inch			
6028	STF 1051			07 26.5 +73 05				
77.169	288.2	0.97	2	7	-0.1	3	1.4	26
77.185	290.1	1.03	2	4	-0.2	4	2.0	26
77.188	286.9	1.00	2	6	0.0	4	1.5	26
77.207	286.4	1.03	2	4	-0.3	3	2.0	26
77.187	287.9	1.01	4n	1.7	26-Inch			
6067	A 2045			07 26.8 +46 11				
76.966	13.2	1.00	3	6	0.0	4	0.6	26
77.133	14.2	1.08	2	8	-0.1	3	0.6	26
77.169	14.3	1.10	1	7	0.0	3	0.6	26
77.089	13.9	1.06	3n	0.6	26-Inch			
6081	J 367			07 26.8 +05 10				
81.232	322.7	1.44	2	4	0.0	3	0.2	26
85.140	322.9	1.31	2	7	0.0	4	0.7	26
85.162	323.0	1.36	2	6	-0.1	4	0.3	26
83.845	322.9	1.37	3n	0.4	26-Inch			
6086	STF 1094			07 27.4 +15 19				
78.943	95.0	2.48	2	4	+0.1	3	0.6	26
79.181	95.1	2.47	2	6	0.0	3	0.8	26
79.203	96.5	2.50	2	4	-0.3	3	1.5	26
79.109	95.5	2.48	3n	1.0	26-Inch			
6115	J 62			07 29.1 +06 47				
79.181	301.8	0.99	2	6	0.0	3	0.2	26
79.219	304.3	1.03	2	5	+0.1	3	0.1	26
80.095	307.3	1.01	2	5	-0.2	3	0.3	26
79.498	304.5	1.01	3n	0.2	26-Inch			
6121	A 2729			07 29.2 +03 23				
87.213	230.8	3.65	2	6	-0.2	3	3.5	26
87.224	231.0	3.50	2	7	-0.1	3	4.0	26
87.232	233.1	3.78	2	6	-0.1	3	3.0	26
87.223	231.6	3.64	3n	3.5	26-Inch			
6120	STF 1099			07 29.4 +11 33				
87.213	342.1	3.77	1	6	-0.1	3	0.2	26
87.224	341.7	3.84	2	7	0.0	3	0.2	26
87.232	341.5	3.99	2	7	0.0	3	0.2	26
87.223	341.8	3.87	3n	0.2	26=Inch			
	RST 255			07 30.1 -63 26				
80.227	202.6	1.19	1	7	+0.3	3	0.1	60
80.230	205.0	1.19	2	4	0.0	3	0.1	60
80.232	203.2	1.25	2	6	-0.1	3		60
80.230	203.6	1.21	3n	0.1	60-Inch			

6117 STF 1093 07 30.3 +49 59

85.179	189.9	0.73	2	5	0.0	3	0.2	26
85.203	186.2	0.71	2	5	-0.1	3	0.0	26
85.214	190.4	0.81	2	5	-0.2	3	0.2	26
85.233	188.1	0.84	2	7	-0.1	3	0.2	26
85.207	188.6	0.77	4n		0.2		26-Inch	

Baize, 1958: -4.0, +0.01.
Scardia, 1984: -1.1, 0.00.

FIN 105 07 30.3 -56 58

83.143	107.0	0.39	2	7	+0.7	3	0.2	36
83.145	103.1	0.28	2	7	+0.8	3	0.2	36
83.148	108.9	0.31	2	8	+0.8	3	0.2	36
83.145	106.3	0.33	3n		0.2		36-Inch	

6133 AG 334 07 30.5 +25 47

78.127	351.7	2.08	2	5	0.0	3	0.2	26
78.149	351.4	1.99	2	6	0.0	3	0.2	26
78.239	351.8	2.14	2	5	0.0	3	0.0	26
78.172	351.6	2.07	3n		0.1		26-Inch	

6151 SEE 80 07 30.7 -28 06

83.151	66.8	0.53	2	8	+0.6	3	0.4	36
83.156	59.9	0.52	2	5	+0.6	3	0.6	36
83.154	63.4	0.52	2n		0.5		36-Inch	

6137 A 673 07 30.9 +30 35

85.233	356.0	0.41	2	6	-0.2	3	0.2	26
86.230	354.3	0.40	2	7	-0.3	3	0.2	26
86.249	350.0	0.33	2	8	-0.2	3	0.2	26
86.252	352.8	0.43	2	7	0.0	3	0.2	26
85.991	353.3	0.39	4n		0.2		26-Inch	

6147 A 1967 07 30.9 -02 10

80.230	355.5	1.32	4	4	+0.1	3	1.6	60
80.232	2.3	1.50	1	5	0.0	3	2.5	60
80.231	358.9	1.41	2n		2.0		60-Inch	

A 3090 07 30.9 -15 14

83.162	142.0	1.47	2	5	+0.7	3	0.8	36
83.176	143.3	1.53	2	7	+0.5	2	1.8	60
83.178	143.6	1.41	2	4	+0.5	2	1.7	60
83.162	142.0	1.47	1n		0.8		36-Inch	
83.177	143.4	1.47	2n		1.8		60-Inch	

6154 HU 1244 07 32.2 +14 05

85.140	293.0	0.44	2	7	0.0	4	0.0	26
85.203	287.2	0.47	2	6	-0.1	3	0.2	26
85.214	294.8	0.49	2	5	-0.2	3	0.0	26
85.233	293.6	0.50	2	7	0.0	3	0.2	26
85.198	292.2	0.48	4n		0.1		26-Inch	

Valbousquet, 1981: +12.4, +0.25. Neither this orbit, nor Baize's (1957) is satisfactory.

RST 3522 07 32.2 -14 08

80.257	289.2	0.22	2	7	+0.4	3	0.0	36
80.257	289.2	0.22	1n		0.0		36-Inch	

B 2147 07 33.2 -71 15

80.240	299.1	0.97	2	8	+0.9	3	0.6	36
80.243	297.1	0.97	2	7	+0.1	3	0.5	36
80.242	298.1	0.97	2n		0.6		36-Inch	

A 3091 07 33.7 -15 09

80.257	292.4	1.44	2	7	+0.2	3	2.2	36
80.257	292.4	1.44	1n		2.2		36-Inch	

6173 BU 579 07 34.5 +33 07

80.095	222.4	0.95	2	6	-0.1	3	2.4	26
81.229	215.0	1.23	2	7	0.0	3	2.8	26
81.232	217.6	1.12	2	5	0.0	3	2.8	26
80.852	218.3	1.10	3n		2.7		26-Inch	

6175 STF 1110 07 34.6 +31 53

76.966	106.0	2.14	2	7	0.0	4	0.8	26
77.108	105.1	2.05	2	7	0.0	4	0.8	26
77.149	105.0	2.15	2	5	+0.1	3	0.9	26
77.169	107.2	2.22	2	7	0.0	3	0.9	26
77.185	107.7	2.34	2	4	-0.3	4	0.8	26
77.188	105.5	2.21	2	7	0.0	4	0.8	26
78.083	103.0	2.16	2	7	-0.5	3	0.8	26
78.097	101.0	2.20	2	6	-0.3	3	0.8	26
78.108	101.0	2.35	2	4	-0.1	3	0.8	26
78.127	103.5	2.21	2	6	0.0	3	0.8	26
78.149	103.5	2.26	2	5	0.0	3	0.8	26
78.239	103.3	2.11	2	5	0.0	3	0.8	26
78.943	102.6	2.17	2	4	+0.1	3	0.9	26
79.181	101.9	2.27	2	7	0.0	3	0.8	26
79.203	101.6	2.46	2	3	-0.3	3	0.8	26
79.206	101.0	2.25	2	6	0.0	3	0.9	26
79.219	99.7	2.32	2	5	0.0	3	0.8	26
80.084	98.6	2.57	2	4	-0.5	3	0.8	26
80.095	97.8	2.33	2	6	-0.1	3	0.8	26
81.100	93.3	2.33	2	5	-0.1	4	0.8	26
81.229	96.0	2.42	2	8	-0.4	3	0.8	26
81.232	96.9	2.37	2	5	-1.0	3	0.8	26
81.267	94.4	2.38	2	7	+0.3	3	0.8	26

85.080	86.5	2.61	2	8	-0.8	4	0.8	26
85.140	86.1	2.66	2	8	0.0	4	0.8	26
85.162	86.9	2.69	2	6	0.0	4	0.7	26
85.179	84.7	2.74	2	6	0.0	3	0.7	26
85.203	86.6	2.56	2	6	-0.2	3	0.7	26
85.214	86.6	2.69	2	5	-0.1	3	0.8	26
86.230	84.9	2.77	2	7	-0.5	3	0.7	26
86.249	85.5	2.70	2	7	-0.4	3	0.8	26
86.252	85.1	2.77	2	7	-0.3	3	0.8	26
86.255	84.5	2.69	2	7	-0.2	3	0.8	26
87.114	83.3	2.74	2	8	-0.2	3	0.8	26
87.136	82.6	2.79	2	5	0.0	3	0.7	26
87.174	80.6	2.77	2	5	-0.1	3	0.9	26
87.194	82.5	2.77	2	7	-0.1	3	0.8	26
77.128	106.1	2.18	6n	0.8			26-Inch	
78.134	102.9	2.22	6n	0.8			26-Inch	
79.150	101.4	2.29	5n	0.8			26-Inch	
80.834	96.2	2.38	6n	0.8			26-Inch	
85.163	86.2	2.66	6n	0.8			26-Inch	
86.246	85.0	2.73	4n	0.8			26-Inch	
87.154	82.2	2.77	4n	0.8			26-Inch	

Muller, 1956: -0.3, +0.04; -0.7, +0.03;
+0.6, +0.04; -0.2, +0.02;
-0.7, -0.02; +0.1, -0.05;
-1.1, -0.08.
A 1985 orbit by Docobo, Costa gives worse residuals.

GLI 69 07 34.8 -70 09

80.240	329.2	2.85	2	8	+0.2	3	0.1	36
80.243	328.5	2.82	2	7	+0.1	3	0.0	36
80.242	328.8	2.84	2n	0.0			36-Inch	

6192 A 531 07 34.9 -05 25

83.154	59.4	0.42	2	6	+0.5	3	0.2	36
83.156	53.8	0.32	2	6	+0.1	3	0.3	36
83.155	56.6	0.37	2n	0.2			36-Inch	

6185 STT 175 07 35.2 +30 58

86.230	329.1	0.22	2	7	-0.3	3	0.2	26
86.249	328.1	0.20	1	8	-0.3	3	0.6	26
86.252	330.8	0.22	2	7	-0.2	3	0.4	26
86.255	328.8	0.23	2	7	-0.1	3	0.4	26
87.114	326.8	0.25	4	7	0.0	3		26
87.136	321.8	0.28	2	5	+0.1	3		26
87.174	326.9	0.23	2	7	-0.1	3		26
87.194	330.7	0.23	2	7	-0.1	3		26
86.246	329.2	0.22	4n	0.4			26-Inch	
87.154	326.6	0.25	4n				26-Inch	

Baize, 1986: +0.6, +0.03; +1.6, +0.06.
Tokovinen, 1986: -1.6, -0.04; -4.0, -0.03.
Quadrants reversed.

FIN 106 07 35.3 -62 57

80.224	88.4	0.29	2	8	+0.3	3		60
80.227	91.5	0.28	2	7	+0.4	3	0.3	60
80.226	90.0	0.28	2n	0.3			60-Inch	

HJ 3997 07 35.4 -74 17

80.243	125.1	1.91	2	7	+0.2	3	0.0	36
80.254	123.3	1.80	2	6	+0.7	3	0.2	36
80.257	124.8	1.99	2	6	+0.6	3	0.1	36
80.251	124.4	1.90	3n	0.1			36-Inch	

I 777 07 36.2 -53 49

80.243	48.2	1.36	2	7	+0.4	3	1.8	36
80.254	48.3	1.42	2	6	+0.7	3	1.8	36
80.257	52.2	1.42	2	6	+0.5	3	1.8	36
80.251	49.6	1.40	3n	1.8			36-Inch	

6217 A 1071 07 36.3 -08 45

80.230	354.0	1.84	2	4	+0.3	3	0.0	60
80.232	353.0	1.72	2	5	+0.1	3	0.2	60
80.231	353.5	1.78	2n	0.1			60-Inch	

6213 A 533 07 36.5 -03 56

80.230	33.2	1.18	2	4	+0.2	3	1.2	60
80.232	32.1	1.19	2	5	0.0	3	1.0	60
80.231	32.6	1.18	2n	1.1			60-Inch	

6199 A 2048 07 37.0 +46 48

77.169	3.3	1.64	2	7	-0.1	3	0.0	26
77.188	3.3	1.72	2	6	-0.1	4	0.0	26
77.207	3.8	1.67	2	5	-0.3	3	0.0	26
77.188	3.5	1.68	3n	0.0			26-Inch	

B 1069 07 37.2 -28 27

83.156	40.4	0.59	2	5	+0.7	3	0.1	36
83.162	43.0	0.47	2	4	+0.8	3	0.0	36
83.159	41.7	0.53	2n	0.0			36-Inch	

FIN 324 ABXC 07 37.4 -34 59

80.240	46.8	0.56	2	8	+0.3	3	0.7	36
80.243	44.6	0.41	2	8	+0.5	3	0.5	36
80.242	45.7	0.48	2n	0.6			36-Inch	

AB has not been seen with certainty since 1956.

6236 A 3051 07 37.9 -06 37

83.154	169.1	0.30	2	6	+0.5	3		36	
83.156	172.6	0.21	2	6	+0.1	3		36	
83.155	170.8	0.26	2n					36-Inch	

6235 A 2948 07 38.2 +09 30

87.194	278.4	0.55	2	6	-0.1	3	0.0	26	
87.213	278.7	0.47	2	5	-0.1	3	0.0	26	
87.224	277.4	0.38	2	7	-0.1	3	0.2	26	
87.232	283.2	0.39	2	6	-0.1	3	0.0	26	
87.216	279.4	0.45	4n		0.0			26-Inch	

6230 STF 1119 07 38.5 +33 43

80.095	351.4	3.11	2	6	0.0	3	0.9	26	
81.229	353.9	3.25	2	7	+0.1	3	1.5	26	
81.232	352.6	3.16	2	5	-0.8	3	1.3	26	
80.852	352.6	3.17	3n		1.2			26-Inch	

6245 A 535 07 38.7 -05 00

83.170	172.3	0.36	2	4	+0.4	2	0.0	60	
83.172	171.0	0.32	2	5	+0.5	2		60	
83.171	171.6	0.34	2n		0.0			60-Inch	

6251 SHB 1 07 39.3 +05 14

86.252	356.7	5.4:	1	7	0.0	3		26	
86.255	355.7	4.8:	1	7	0.0	3		26	
86.254	356.2	5.1:	2n					26-Inch	

Strand, 1951: -5.9, -0.05:.
Very difficult. No doubt the agreement of the two angles is fortuitous.

RST 3537 07 39.5 -16 02

83.151	256.2	0.24	2	7	+0.6	3	0.2	36	
83.154	247.6	0.29	2	5	+0.6	3	0.2	36	
83.152	251.9	0.26	2n		0.2			36-Inch	

6258 BRD 2 07 39.8 +05 16

77.185	186.3	0.84	1	4	-0.2	3	0.3	26	
77.188	185.8	0.90	1	7	0.0	4	0.3	26	
77.193	186.6	0.86	1	7	0.0	3	0.3	26	
77.207	187.6	0.76	1	4	-0.3	3	0.3	26	
77.193	186.6	0.84	4n		0.3			26-Inch	

6263 STF 1126 07 40.1 +05 14

77.185	162.7	1.00	1	5	-0.2	3	0.2	26	
77.188	163.0	0.95	1	7	+0.1	4	0.3	26	
77.193	163.5	0.98	1	7	+0.1	3	0.2	26	
77.207	164.8	0.94	1	4	-0.2	3	0.4	26	
85.233	166.5	0.98	4	7	-0.1	3	0.3	26	
86.230	168.0	0.97	1	6	-0.4	3	0.3	26	
86.249	169.0	0.98	4	7	-0.1	3	0.4	26	
86.252	168.3	0.93	1	7	-0.1	3	0.3	26	
77.193	163.5	0.97	4n		0.3			26-Inch	
85.991	168.0	0.96	4n		0.3			26-Inch	

6269 A 2740 07 40.3 -12 57

83.162	165.9	1.23	2	5	+0.9	3	0.5	36	
83.176	167.6	1.28	2	7	+0.5	2	0.3	60	
83.184	167.4	1.29	2	6	+0.2	2	0.3	60	
83.162	165.9	1.23	1n		0.5			36-Inch	
83.180	167.5	1.28	2n		0.2			60-Inch	

6279 A 1968 07 41.1 -01 24

76.966	331.2	0.33	1	5	0.0	4	0.0	26	
77.108	340.7	0.37	1	5	0.0	4	0.0	26	
77.169	338.0	0.29	1	5	0.0	3	0.2	26	
77.188	335.1	0.31	3	6	+0.2	4	0.2	26	
80.246	333.8	0.30	1	5	+0.3	3		36	
80.249	334.4	0.31	2	9	+0.2	3	0.0	36	
80.254	334.8	0.29	2	8	+0.3	3	0.3	36	
85.233	315.9	0.26	2	7	0.0	3	0.0	26	
86.230	320.0	0.28	2	6	-0.3	3		26	
86.249	324.4	0.24	2	7	-0.1	3	0.0	26	
86.252	322.3	0.29	2	7	+0.2	3	0.0	26	
77.108	336.2	0.32	4n		0.0			26-Inch	
80.250	334.3	0.30	3n		0.2			36-Inch	
85.991	320.6	0.27	4n		0.0			26-Inch	

Scardia, 1983: +2.6, -0.02; +4.9, -0.03; -0.3, -0.03.

6290 J 45 07 41.6 +09 01

87.194	189.9	2.98	2	7	0.0	3	1.0	26	
87.213	190.2	3.26	3	5	0.0	3	1.0	26	
87.224	193.6	2.91	1	7	-0.1	3	1.2	26	
87.210	191.2	3.05	3n		1.1			26-Inch	

6276 STT 177 07 41.7 +37 26

81.232	170.0	0.28	2	8	-0.1	3	1.0	26	
85.162	163.4	0.28	2	6	-0.1	4	0.8	26	
85.179	163.0	0.35	2	6	0.0	3	1.2	26	
85.203	155.4	0.35	2	6	-0.1	3	1.2	26	
84.194	163.0	0.32	4n		1.0			26-Inch	

Heintz, 1982: -0.4, -0.08.

6291 STF 1130 07 41.7 +09 42

76.966	302.0	0.27	2	6	+0.1	4	0.4	26
77.108	302.5	0.23	2	6	+0.3	4	0.3	26
77.149	303.2	0.38	2	5	+0.1	3	0.4	26
77.169	302.9	0.29	2	6	0.0	3	0.3	26
78.239	309.9	0.31	2	5	0.0	3	0.4	26
79.181	314.6	0.31	2	6	0.0	3	0.3	26
79.206	305.9	0.27	2	5	-0.1	3	0.3	26
79.219	313.9	0.28	2	5	0.0	3	0.4	26
80.095	310.5	0.35	2	5	0.0	3	0.4	26
81.229	320.4	0.38	4	5	+0.1	3	0.4	26
81.232	321.7	0.27	2	5	-0.7	3	0.4	26
85.140	338.4	0.32	2	7	0.0	4	0.5	26
85.162	337.4	0.31	2	5	-0.1	4	0.3	26
85.179	326.6	0.32	2	5	0.0	3	0.4	26
85.203	330.9	0.34	2	5	0.0	3	0.3	26
87.114	335.4	0.34	2	7	0.0	3	0.3	26
87.174	338.1	0.36	2	5	-0.2	3	0.2	26
87.194	345.1	0.39	1	7	-0.1	3	0.3	26
87.213	333.5	0.38	3	5	-0.1	3	0.4	26

77.098	302.6	0.28	4n	0.4	26-Inch
78.961	311.1	0.29	4n	0.4	26-Inch
80.852	317.5	0.33	3n	0.4	26-Inch
85.171	333.3	0.32	4n	0.4	26-Inch
87.174	338.0	0.37	4n	0.3	26-Inch

Baize, 1984: +1.4, -0.04; +2.0, -0.04;
+0.7, 0.00; -0.9, -0.01;
-4.5, +0.05.

6292 J 373 07 41.7 +05 51

79.181	98.2	1.69	2	6	+0.1	3	1.0	26
79.206	100.2	1.81	2	6	0.0	3	1.2	26
79.219	102.1	1.67	2	5	+0.1	3	1.6	26

79.178	100.2	1.72	3n	1.3	26-Inch

FIN 35 07 41.9 -54 25

80.224	226.0	0.57	2	8	+0.4	3	0.4	60
80.227	224.5	0.54	2	6	+0.4	3	0.2	60

80.226	225.2	0.56	2n	0.3	60-Inch

6315 HU 710 07 43.0 -17 04

80.224	94.0	0.46	2	8	+0.6	3	0.5	60
80.227	94.7	0.43	2	6	+0.5	3	0.3	60
83.143	89.7	0.34	2	8	+0.6	3	0.3	36
83.145	90.5	0.35	2	8	+0.7	3	0.3	36
83.148	88.2	0.35	2	7	+0.7	3	0.2	36

80.226	94.4	0.44	2n	0.4	60-Inch
83.145	89.5	0.35	3n	0.3	36-Inch

Heintz, 1981: +2.4, +0.06; +1.1, -0.05.

6327 HU 844 07 44.1 -16 56

80.246	130.5	0.23	2	5	+0.4	3	0.4	36
80.249	130.4	0.28	2	9	+0.2	3	0.4	36
80.254	130.6	0.23	2	8	+0.3	3	0.1	36

80.250	130.5	0.25	3n	0.3	36-Inch

RST 4862 07 44.3 -20 18

80.224	6.8	0.30	2	7	+0.8	3		60
80.227	12.2	0.25	2	6	+0.6	3	0.0	60
80.232	5.2	0.24	2	5	+0.1	3		60

80.228	8.1	0.26	3n	0.0	60-Inch

Slight angular decrease.

RST 2500 07 44.3 -25 47

83.143	316.1	0.23	2	7	+0.7	3		36
83.145	319.3	0.25	2	7	+0.7	3	0.0	36

83.144	317.7	0.24	2n	0.0	36-Inch

Angular increase.

6339 I 780 07 44.5 -23 51

80.230	359.9	0.61	2	4	+0.3	3	0.4	60
80.232	1.1	0.77	1	4	+0.2	3	0.5	60

80.231	0.5	0.69	2n	0.4	60-Inch

6323 A 674 07 44.6 +31 07

81.232	121.8	1.12	2	5	0.0	3	2.0	26
85.203	119.2	1.12	2	5	-0.2	3	2.4	26
85.214	123.0	1.13	2	4	+0.1	3	2.5	26

83.883	121.3	1.12	3n	2.3	26-Inch

6342 OL 58 07 44.8 -19 18

80.224	120.9	1.62	2	8	+0.9	3	0.5	60
80.227	119.1	1.60	2	7	+0.7	3	0.2	60

80.226	120.0	1.61	2n	0.4	60-Inch

6347 HO 247 07 46.1 +21 07

77.169	222.9	0.35	1	7	0.0	3	0.5	26
77.185	223.0	0.34	2	5	-0.2	3	0.4	26
77.188	222.9	0.34	2	6	+0.2	4	0.3	26
77.193	223.5	0.33	2	7	+0.1	3	0.3	26

77.184	223.1	0.34	4n	0.4	26-Inch

Heintz, 1984: -0.9, -0.02.

RST 4373 07 46.7 -03 21

83.176	77.2	0.42	2	7	+0.5	2	0.5	60
83.184	80.1	0.38	2	6	+0.1	2	0.2	60

83.180	78.6	0.40	2n	0.4	60-Inch

HU 1428 07 46.8 -46 48

80.240	25.8	0.46	2 8 +0.3 3 1.1 36
80.243	25.2	0.42	2 7 +0.4 3 1.0 36
80.242	25.5	0.44	2n 1.0 36-Inch

B 1076 07 47.0 -21 20

83.170	9.6	2.02	2 4 +0.4 2 3.2 60
83.173	8.8	2.00	2 5 +0.5 2 2.7 60
83.172	9.2	2.01	2n 3.0 60-Inch

6354 HU 1247 07 48.0 +60 18

85.233	275.6	0.24	2 6 -0.3 3 0.0 26
86.230	260.7	0.24	2 6 -0.5 3 26
86.249	267.6	0.22	2 7 -0.3 3 0.2 26
86.252	259.7	0.26	2 7 -0.3 3 0.0 26
85.991	265.9	0.24	4n 0.0 26-Inch

Baize, 1961: -3.2, 0.00.

B 1077 07 48.0 -19 24

83.148	302.7	0.52	2 7 +0.7 3 0.4 36
83.151	300.6	0.59	2 8 +0.6 3 0.8 36
83.150	301.6	0.56	2n 0.6 36-Inch

Increase in angle and separation.

FIN 109 07 48.3 -56 28

80.240	231.3	0.91	2 8 +0.4 3 2.2 36
80.243	231.4	1.25	2 7 +0.5 3 2.0 36
80.257	227.5	1.01	1 6 +0.5 3 1.7 36
80.247	230.1	1.06	3n 2.0 36-Inch

No measures for 37 years. Angular increase.

6383 A 334 07 48.4 -04 47

80.246	112.7	0.28	2 5 +0.4 3 0.6 36
80.249	117.0	0.24	2 9 +0.6 3 0.4 36
80.254	113.4	0.22	2 8 +0.3 3 0.2 36
80.250	114.4	0.25	3n 0.4 36-Inch

OL 5 AXBC 07 48.4 -19 22

83.148	216.3	2.71	2 7 +0.8 3 3.0 36
83.151	215.6	2.43	2 8 +0.7 3 3.0 36
83.150	216.0	2.57	2n 3.0 36-Inch

B 2154 BC

83.148	197.0	1.17	2 7 +0.9 3 0.6 36
83.151	200.0	1.29	2 7 +0.8 3 0.5 36
83.150	198.5	1.23	2n 0.6 36-Inch

6378 WRH 15 07 48.6 +23 08

77.169	58.3	0.25	2 6 +0.1 3 0.5 26
77.185	53.3	0.28	2 5 -0.1 3 0.6 26
77.188	52.8	0.29	3 6 +0.2 4 0.8 26
77.193	59.7	0.27	1 7 +0.2 3 1.2 26
82.242	57.7	0.26	2 6 +0.1 3 0.2 26
85.140	46.4	0.26	2 7 0.0 4 0.5 26
85.162	39.0	0.29	2 6 -0.1 4 0.5 26
85.179	53.0	0.28	2 5 +0.1 3 26
77.184	56.0	0.27	4n 0.8 26-Inch
84.431	49.0	0.27	4n 0.4 26-Inch

FIN 110 07 48.7 -62 25

80.240	298.0	1.04	2 8 +0.5 3 0.7 36
80.243	300.0	0.98	2 7 +0.6 3 0.6 36
80.257	300.7	1.04	2 7 +0.6 3 1.0 36
80.247	299.6	1.02	3n 0.8 36-Inch

Decrease in angle, increase in distance.

B 145 07 49.7 -23 50

83.170	159.5	0.76	2 3 +0.4 2 0.2 60
83.173	151.6	0.76	2 5 +0.6 2 0.4 60
83.176	153.3	0.85	2 7 +0.6 2 0.5 60
83.173	154.8	0.79	3n 0.4 60-Inch

6395 HO 37 07 49.9 -02 16

83.154	178.5	1.66	1 5 +0.5 3 0.1 36
83.156	176.3	1.55	2 6 +0.1 3 0.2 36
83.155	177.4	1.60	2n 0.2 36-Inch

6412 BU 1195 07 51.3 -09 24

80.246	93.0	0.23	2 5 +0.4 3 0.2 36
80.249	93.7	0.21	2 9 +0.3 3 0.0 36
80.251	93.4	0.21	2 7 +0.8 3 0.0 36
80.249	93.4	0.22	3n 0.1 36-Inch

6420 BU 101 07 51.7 -13 53

80.224	41.0	0.19	2 8 +0.9 3 60
80.227	47.4	0.17	2 6 +0.7 3 0.6 60
80.230	44.8	0.17	2 5 +0.4 3 0.3 60
83.143	88.3	0.24	2 8 +0.8 3 0.5 36
83.145	88.0	0.34	2 7 +0.7 3 0.6 36
83.148	90.2	0.28	2 8 +1.0 3 0.6 36
80.227	44.5	0.18	3n 0.4 60-Inch
83.145	88.8	0.29	3n 0.6 36-Inch

Woolley, Symms, 1937: -4.6, -0.01; -0.7, 0.00.
Breakiron, Gatewood, 1975: -1.5, +0.02; +2.1, 0.00.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

6424 HU 53 07 52.3 -11 39

83.143	150.4	0.38	2	7	+0.9	3	0.3	36
83.145	147.1	0.43	2	6	+0.8	3	0.7	36
83.144	148.8	0.40	2n	0.5				36-Inch

6425 STT 182 07 52.7 +03 24

87.114	16.4	0.93	1	7	-0.2	3	0.3	26
87.174	13.8	0.87	1	6	0.0	3	0.0	26
87.194	14.8	0.91	1	7	-0.1	3	0.2	26
87.213	16.8	0.93	1	6	-0.1	3	0.0	26
87.174	15.4	0.91	4n	0.1				26-Inch

FIN 325 07 52.8 -05 25

83.151	184.7	0.35	2	7	+0.9	3	0.3	36
83.154	183.3	0.36	2	5	+0.5	3		36
83.156	182.3	0.28	2	7	+0.1	3	0.4	36
83.154	183.4	0.33	3n	0.4				36-Inch

Heintz, 1978: +3.7, -0.02.

COU 2075 07 55.6 +36 30

85.233	144.6	0.76	2	6	-0.2	3	0.4	26
86.230	140.9	0.87	2	6	-0.2	3	0.5	26
86.249	139.0	0.82	2	8	0.0	3	0.5	26
85.904	141.5	0.82	3n	0.5				26-Inch

6464 A 2538 07 55.8 +24 20

79.219	309.7	0.74	2	5	0.0	3	1.0	26
81.232	310.8	0.66	2	5	-0.1	3	1.7	26
85.140	306.3	0.70	2	7	0.0	4	1.4	26
85.162	306.4	0.84	2	5	-0.1	4	1.4	26
82.688	308.3	0.74	4n	1.4				26-Inch

SEE 91 07 55.8 -43 51

83.178	342.9	0.55	2	4	+0.2	2	0.3	60
83.184	340.2	0.67	2	7	+0.1	2	0.5	60
83.181	341.6	0.61	2n	0.4				60-Inch

6483 STT 185 07 57.3 +01 08

77.169	46.8	0.25	2	6	0.0	3	0.2	26
77.188	43.3	0.25	2	6	0.0	4	0.0	26
77.193	48.9	0.26	3	7	-0.1	3	0.2	26
77.278	42.8	0.23	1	6	+0.5	3	0.2	26
86.230	71.4	0.15	2	6	-0.4	3		26
86.249	88.9	0.10	2	7	+0.1	3		26
86.252	77.4	0.13	2	7	0.0	3		26
86.255	79.5	0.16	2	6	0.0	3		26
77.207	45.4	0.25	4n	0.2				26-Inch
86.246	79.3	0.14	4n					26-Inch

van den Bos, 1949: - 1.0, +0.01;
-14.7, +0.01.

I 26 07 57.4 -47 53

83.176	62.5	0.38	2	7	+0.6	2	0.7	60
83.178	65.8	0.41	2	4	+0.3	2		60
83.184	66.8	0.38	2	6	+0.2	2	0.4	60
83.179	65.0	0.39	3n	0.6				60-Inch

Closing in.

JSP 208 BC 07 57.8 -60 18

83.159	289.0	3.01	2	7	+0.8	3	3.5	36
83.176	284.5	2.88	2	8	+0.8	2	3.0	60
83.184	284.8	3.09	2	5	+0.1	2	3.5	60
83.159	289.0	3.01	1n	3.5				36-Inch
83.180	284.6	2.98	2n	3.2				60-Inch

Increase in angle and separation.

6494 J 70 07 59.1 +06 20

78.149	310.3	2.21	2	5	0.0	3	1.3	26
78.239	311.9	2.12	2	5	0.0	3	2.1	26
78.242	312.3	2.09	4	4	+0.3	3	1.8	26
78.210	311.5	2.14	3n	1.7				26-Inch

6491 STF 1161 07 59.7 +46 38

78.127	195.8	2.93	1	6	-0.3	3	1.4	26
78.239	198.5	2.77	2	5	-0.1	3	1.6	26
78.943	196.5	2.78	2	4	-0.2	3	1.2	26
78.436	196.9	2.83	3n	1.4				26-Inch

I 1070 07 59.7 -47 18

83.176	0.0	0.27	2	8	+0.6	2	0.6	60
83.184	355.3	0.28	2	7	+0.2	2	0.2	60
83.180	357.6	0.28	2n	0.4				60-Inch

6499 STF 1170 07 59.8 +13 42

78.108	105.6	2.41	2	4	-0.3	3	0.2	26
78.127	106.0	2.34	2	6	-0.2	3	0.2	26
78.149	106.3	2.31	2	5	0.0	3	0.1	26
78.239	106.0	2.31	2	5	0.0	3	0.2	26
78.156	106.0	2.34	4n	0.2				26-Inch

6511 A 2954 08 00.5 +09 55

87.194	346.4	0.73	1	7	-0.1	3	0.4	26
87.213	345.6	0.68	1	7	-0.2	3	0.3	26
87.224	344.4	0.59	1	7	-0.2	3	0.2	26
87.232	350.0	0.57	2	5	0.0	3	0.3	26
87.216	346.6	0.64	4n	0.3				26-Inch

	B 1574			08 00.7	-31 46					
83.173	206.0	0.35	2	4	+0.6	2	0.3	60		
83.176	210.2	0.31	2	7	+0.9	2	0.6	60		
83.184	207.7	0.36	2	7	+0.4	2	0.2	60		
83.178	208.0	0.34	3n	0.4		60-Inch				
6523	OL 30			08 00.8	-29 28					
80.230	71.7	1.12	2	5	+0.4	3	0.1	60		
80.232	71.4	1.15	2	5	+0.1	3	0.0	60		
80.231	71.6	1.14	2n	0.1		60-Inch				
6527	A 539			08 01.9	-03 33					
76.966	20.4	0.68	1	5	0.0	4	0.5	26		
77.108	23.8	0.62	1	5	+0.1	4	0.6	26		
77.149	23.4	0.56	1	4	0.0	3	0.5	26		
77.169	24.1	0.70	1	5	0.0	3	0.3	26		
77.098	22.9	0.64	4n	0.5		26-Inch				
	I 8			08 02.4	-44 40					
80.257	304.2	2.40	2	7	+0.5	3	2.0	36		
80.257	304.2	2.40	1n	2.0		36-Inch				
6532	STF 1175			08 02.5	+04 09					
77.169	269.0	1.34	2	6	0.0	3	1.5	26		
77.185	268.2	1.45	2	5	-0.2	3	1.4	26		
77.188	268.3	1.34	4	2	0.0	4	1.6	26		
77.193	268.5	1.36	2	7	0.0	3	1.5	26		
87.194	271.8	1.36	2	7	-0.1	3	1.4	26		
87.213	273.0	1.27	2	7	-0.1	3	1.2	26		
87.224	274.2	1.31	2	7	-0.2	3	1.4	26		
87.232	275.4	1.37	2	5	-0.1	3	1.2	26		
77.184	268.5	1.37	4n	1.5		26-Inch				
87.216	273.6	1.33	4n	1.3		26-Inch				

Hopmann, 1964: -0.7, +0.16; -4.6, +0.15.

6547	A 1581			08 03.1	-06 25					
80.230	293.6	1.22	2	5	+0.5	3	0.2	60		
80.232	293.7	1.12	2	5	+0.2	3	0.3	60		
80.231	293.6	1.17	2n	0.2		60-Inch				

Heintz, 1967: -3.0, +0.39.
The orbit fails in separation.

6550	OL 60			08 03.8	+12 39					
79.219	109.9	3.81	2	5	0.0	3	0.6	26		
81.232	109.3	3.75	2	5	-0.1	3	0.5	26		
81.267	107.7	3.77	2	6	+0.1	3	0.9	26		
80.573	109.0	3.78	3n	0.7		26-Inch				
	B 2164 CD			08 03.9	-31 33					
83.156	59.3	4.08	2	5	+1.2	3	0.3	36		
83.162	60.0	4.13	2	5	+0.7	3	0.2	36		
83.159	59.6	4.10	2n	0.2		36-Inch				
6549	STT 187			08 04.3	+33 02					
80.095	359.1	0.31	2	5	-0.1	3	0.2	26		
81.229	1.3	0.32	2	5	0.0	3	0.3	26		
81.232	357.8	0.34	2	6	0.0	3	0.3	26		
81.267	0.9	0.39	2	7	0.0	3	0.3	26		
85.179	352.2	0.34	2	5	-0.1	3	0.0	26		
85.203	350.8	0.34	2	6	-0.2	3	0.5	26		
85.214	354.0	0.36	2	5	-0.1	3	0.3	26		
85.233	354.2	0.38	2	7	-0.1	3	0.3	26		
80.956	359.8	0.34	4n	0.3		26-Inch				
85.207	352.8	0.36	4n	0.3		26-Inch				

Morel, 1970: +5.4, +0.03; +2.0, +0.04.

6554	BU 581			08 04.3	+12 18					
78.127	251.1	0.36	2	5	-0.1	3	0.2	26		
78.149	252.6	0.41	2	5	+0.1	3	0.0	26		
78.239	247.7	0.34	2	5	0.0	3	0.0	26		
87.194	279.9	0.54	2	7	0.0	3	0.0	26		
87.213	281.8	0.56	2	5	0.0	3	0.0	26		
87.224	281.0	0.49	2	8	-0.1	3	0.3	26		
87.232	280.1	0.48	2	4	0.0	3		26		
78.172	250.5	0.37	3n	0.0		26-Inch				
87.216	280.7	0.52	4n	0.1		26-Inch				

Heintz, 1974: +5.0, -0.08; +1.9, +0.01.

6566	I 487			08 04.5	-25 42					
83.170	24.2	1.80	2	4	+0.4	2	2.4	60		
83.173	24.2	1.87	2	5	+0.6	2	2.4	60		
83.184	21.5	1.95	2	7	+0.5	2	2.7	60		
83.176	23.3	1.87	3n	2.5		60-Inch				
6545	STF 1172			08 04.7	+54 45					
78.943	243.5	1.55	2	4	-0.2	3	1.5	26		
85.162	243.8	1.75	2	5	-0.1	4	1.2	26		
85.179	242.8	1.55	4	4	0.0	3	1.5	26		
83.095	243.4	1.62	3n	1.4		26-Inch				
	J 2053			08 05.4	-16 52					
83.154	36.1	4.85	2	5	+0.6	3	0.7	36		
83.184	35.6	5.07	2	7	+0.6	2	0.6	60		
83.154	36.1	4.85	1n	0.7		36-Inch				
83.184	35.6	5.07	1n	0.6		60-Inch				

6582 A 1971 08 06.1 -00 46

76.966	19.2	0.79	1	5	0.0	4	0.2	26
77.108	17.9	0.91	1	5	+0.1	4	0.0	26
77.149	19.7	0.70	1	5	0.0	3	0.2	26
77.185	19.4	0.90	1	5	-0.2	3	0.0	26
77.102	19.0	0.82	4n		0.1		26-Inch	

Zulevic, 1979: -0.2, 0.00.

6584 J 420 08 06.2 +02 01

76.257	231.2	0.50	2	8	+0.1	4	0.5	26
76.966	234.3	0.50	2	5	0.0	4	0.2	26
77.108	235.3	0.62	2	5	+0.2	4	0.3	26
77.169	233.4	0.54	2	6	+0.1	3	0.3	26
79.181	221.9	0.50	2	5	-0.1	3	0.1	26
79.219	225.8	0.59	3	5	0.0	3	0.5	26
76.875	233.6	0.54	4n		0.3		26-Inch	
79.200	223.8	0.54	2n		0.3		26-Inch	

This pair appears to be in rapid motion, but annual observation is needed to define its nature.

6591 OL 31 08 06.2 -22 52

83.145	37.7	0.78	2	7	+0.8	3	0.1	36
83.148	36.2	0.88	2	7	+0.9	3	0.6	36
83.146	37.0	0.83	2n		0.4		36-Inch	

I 164 08 06.2 -40 06

80.257	72.7	0.52	2	7	+0.6	3	1.4	36
80.257	72.7	0.52	1n		1.4		36-Inch	

RST 4385 08 06.9 -05 17

80.246	95.6	1.08	2	5	+0.3	3	0.3	36
80.249	92.0	0.99	2	9	+0.1	3	0.5	36
80.251	91.9	1.15	2	7	+0.2	3	0.5	36
80.249	93.2	1.07	3n		0.4		36-Inch	

Direct motion.

6606 A 2749 08 07.5 -12 12

83.154	267.5	0.35	2	6	+0.6	3	0.4	36
83.184	269.6	0.30	2	7	+0.7	2	0.5	60
83.154	267.5	0.35	1n		0.4		36-Inch	
83.184	269.6	0.30	1n		0.5		60-Inch	

Baize, 1981: -1.2, -0.04; +0.9, -0.09.

B 1586 08 08.5 -52 38

83.176	254.4	0.29	2	7	+0.5	2	1.4	60
83.184	255.5	0.29	2	7	+0.2	2	1.3	60
83.180	255.0	0.29	2n		1.4		60-Inch	

6619 J 734 08 08.9 +07 50

79.181	240.6	1.99	2	6	0.0	3	0.4	26
79.206	240.2	2.01	2	5	+0.2	3	0.7	26
79.219	239.6	1.95	2	5	0.0	3	0.8	26
79.202	240.1	1.98	3n		0.6		26-Inch	

6630 BU 583 08 09.2 -06 43

83.154	72.3	1.92	2	6	+0.7	3	0.3	36
83.162	74.3	1.86	2	4	+0.8	3	0.4	36
83.158	73.3	1.89	2n		0.4		36-Inch	

B 1089 08 09.2 -37 48

80.240	202.6	0.38	2	8	+0.3	3	0.5	36
80.243	206.4	0.38	2	7	+0.4	3	0.4	36
80.246	202.6	0.36	2	5	+0.6	3	0.3	36
80.243	202.6	0.37	3n		0.4		36-Inch	

6615 HU 850 08 09.4 +37 35

77.185	353.8	0.52	2	5	0.0	3	0.2	26
77.193	350.0	0.56	2	7	0.0	3	0.3	26
77.207	354.8	0.57	2	4	-0.3	3	0.3	26
77.195	352.9	0.55	3n		0.3		26-Inch	

B 758 08 09.8 -26 54

83.148	186.7	0.21	2	7	+0.9	3		36
83.151	188.3	0.23	2	8	+0.7	3	0.2	36
83.150	187.5	0.22	2n		0.2		36-Inch	

Slow angular decrease.

6640 B 150 08 10.3 -25 05

83.154	40.4	0.41	2	6	+0.8	3	0.5	36
83.184	41.2	0.41	2	7	+0.7	2	0.7	60
83.154	40.4	0.41	1n		0.5		36-Inch	
83.184	41.2	0.41	1n		0.7		60-Inch	

6637 STF 1191 08 10.8 +19 02

87.194	77.3	3.47	2	7	0.0	3	0.0	26
87.213	77.2	3.58	4	6	0.0	3	0.3	26
87.224	76.7	3.58	2	7	-0.2	3	0.3	26
87.210	77.1	3.54	3n		0.2		26-Inch	

6651 FOX 64 08 11.8 -06 39

80.246	52.4	2.06	3	5	+0.3	3	1.0	36
80.249	51.8	1.96	2	9	+0.1	3	0.6	36
80.251	50.0	2.04	2	7	+0.2	3	0.8	36
80.249	51.4	2.02	3n		0.8		36-Inch	

6650	STF 1196		08 12.2 +17 39				
76.966	297.5	0.88	2 6	0.0	4	0.3	26
77.108	296.8	0.79	2 5	+0.2	4	0.4	26
77.149	298.6	0.87	2 5	-0.1	3	0.3	26
77.169	299.6	0.84	2 6	+0.1	3	0.3	26
78.097	290.4	0.89	2 7	-1.0	3	0.3	26
78.108	291.2	0.76	2 4	-0.3	3	0.7	26
78.127	291.9	0.75	2 6	-0.2	3	0.2	26
78.149	290.2	0.73	2 5	0.0	3	0.4	26
78.943	286.7	0.71	2 4	-0.1	3	0.5	26
79.181	285.7	0.89	2 6	0.0	3	0.5	26
79.206	285.0	0.65	2 5	+0.2	3	0.5	26
79.219	285.4	0.81	2 5	0.0	3	0.5	26
80.095	277.8	0.88	2 5	-0.1	3	0.4	26
80.295	277.5	0.62	2 7	+0.4	3	0.5	26
81.100	271.1	0.72	2 4	-0.5	3	0.6	26
81.229	271.4	0.82	2 5	0.0	3	0.5	26
82.242	262.3	0.74	2 6	-0.2	3	0.5	26
82.286	261.0	0.71	2 6	0.0	3	0.7	26
85.140	236.6	0.57	2 8	-0.1	4	0.4	26
85.162	236.1	0.62	2 6	-0.1	4	0.4	26
85.179	232.4	0.66	2 4	+0.1	3		26
85.203	234.1	0.61	2 5	-0.3	3	0.5	26
86.230	222.8	0.62	2 6	-0.3	3		26
86.249	224.1	0.69	2 7	-0.1	3	0.5	26
86.252	219.4	0.61	2 7	-0.2	3	0.4	26
86.255	222.3	0.63	2 5	-0.2	3	0.4	26
87.114	211.4	0.61	2 8	-0.3	3	0.5	26
87.174	212.0	0.54	2 6	-0.2	3	0.4	26
87.194	209.8	0.61	2 7	0.0	3	0.4	26
87.207	211.2	0.64	2 4	-0.2	3	0.5	26
77.098	298.1	0.84	4n	0.3		26-Inch	
78.120	290.9	0.78	4n	0.4		26-Inch	
79.137	285.7	0.76	4n	0.5		26-Inch	
80.680	274.4	0.76	4n	0.5		26-Inch	
82.264	261.6	0.72	2n	0.6		26-Inch	
85.171	234.8	0.62	4n	0.4		26-Inch	
86.246	221.5	0.64	4n	0.4		26-Inch	
87.172	211.1	0.60	4n	0.4		26-Inch	

Gasteyer, 1954: +0.7, -0.06; -0.7, -0.09;
+0.2, -0.08; -1.2, -0.03;
-1.9, -0.02; -2.8, -0.04;
-4.9, 0.00; -5.0, -0.02.
Increasing deviations.

	COU 1114		08 12.6 +28 49				
85.233	230.4	0.14	2 7	-0.2	3		26
86.230	231.8	0.19	2 6	-0.2	3		26
86.249	227.7	0.22	2 6	+0.1	3		26
85.904	230.0	0.18	3n			26-Inch	

	RST 4388		08 12.7 -21 51				
83.151	263.3	0.61	2 8	+0.8	3	1.5	36
83.184	262.7	0.59	2 5	+0.8	2	1.2	60
83.151	263.3	0.61	1n	1.5		36-Inch	
83.184	262.7	0.59	1n	1.2		60-Inch	

Slow retrograde motion with increasing distance.

6653	STF 1197		08 12.8 +29 32				
78.943	102.3	1.86	2 4	0.0	3	0.4	26
79.181	100.9	1.87	2 6	0.0	3	0.6	26
79.206	101.1	1.85	2 5	+0.2	3	0.8	26
79.110	101.4	1.86	3n	0.6		26-Inch	

	B 1093		08 13.0 -29 12				
83.173	90.2	0.41	2 5	+0.6	2	0.3	60
83.176	85.4	0.49	2 7	+0.8	2	0.5	60
83.174	87.8	0.45	2n	0.4		60-Inch	

6664	HU 115		08 13.2 -13 54				
83.143	152.0	1.12	2 7	+1.2	3	0.5	36
83.145	152.5	1.21	2 8	+0.8	3	0.5	36
83.148	154.0	1.04	2 8	+1.0	3	0.5	36
83.145	152.8	1.12	3n	0.5		36-Inch	

Heintz, 1974: +2.6, -0.03.

6670	SEE 505		08 13.3 -24 17				
80.246	260.0	1.41	2 5	+0.4	3	1.2	36
80.249	257.8	1.32	2 9	+0.2	3	1.2	36
80.251	257.3	1.22	2 7	+0.3	3	1.2	36
80.249	258.4	1.32	3n	1.2		36-Inch	

	I 1177		08 13.3 -41 15				
80.246	144.3	1.96	2 4	+0.7	3	1.4	36
80.249	146.8	2.05	2 7	+0.3	3	0.8	36
80.251	144.1	2.04	2 5	+0.7	3	1.2	36
80.249	145.1	2.02	3n	1.1		36-Inch	

6665	BU 204		08 13.6 +10 23				
80.095	299.6	0.82	2 4	0.0	3	2.0	26
81.232	295.5	0.81	2 5	-0.1	3	1.8	26
81.267	294.7	0.87	2 7	0.0	3	1.5	26
80.865	296.6	0.83	3n	1.8		26-Inch	

	COU 46		08 14.9 +20 17				
85.203	139.9	1.76	2 5	-0.2	3	0.7	26
85.214	137.1	1.69	2 5	-0.2	3	0.8	26
85.233	137.4	1.68	2 7	-0.2	3	0.5	26
85.217	138.1	1.71	3n	0.7		26-Inch	

6697	A 546		08 15.5 -07 07				
80.227	82.8	0.40	2 5	+0.4	3		60
80.230	82.7	0.32	2 5	+0.3	3	0.2	60
80.232	87.2	0.34	2 4	+0.1	3	0.2	60
80.230	84.2	0.35	3n	0.2		60-Inch	

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

FIN 115 08 15.5 -53 32

80.240	152.8	0.36	2	8	+0.3	3	1.0	36	
80.243	145.4	0.29	2	7	+0.4	3	0.4	36	
80.249	151.5	0.24	2	9	+0.4	3	0.5	36	
80.244	149.9	0.30	3n		0.6			36-Inch	

The pair remains a puzzle.

RST 3578 08 15.8 -10 26

80.224	157.6	0.14	2	8	+0.7	3	0.0	60	
80.227	154.0	0.16	2	5	+0.5	3		60	
80.226	155.8	0.15	2n		0.0			60-Inch	

Closed in and moving rapidly.

BU 454 08 15.9 -30 55

83.167	4.8	1.97	2	5	+0.1	2	1.3	60	
83.170	5.8	2.06	2	4	+0.3	2	2.0	60	
83.168	5.3	2.02	2n		1.6			60-Inch	

6707 HWE 21 08 16.4 -03 13

80.251	235.8	1.46	2	7	+0.4	3	3.3	36	
80.254	235.5	1.51	2	6	+0.7	3	3.5	36	
80.257	237.2	1.53	2	7	+0.5	3	2.8	36	
80.254	236.2	1.50	3n		3.2			36-Inch	

COO 70 08 16.9 -34 52

80.246	141.1	2.19	2	5	+0.7	3	0.5	36	
80.251	140.0	2.21	2	5	+0.7	3	0.3	36	
80.254	139.8	2.24	2	8	+0.3	3	0.6	36	
80.250	140.3	2.21	3n		0.5			36-Inch	

6719 A 337 08 17.3 -05 23

83.154	95.7	0.42	2	6	+0.9	3	0.2	36	
83.159	96.4	0.41	2	7	+0.6	3	0.4	36	
83.156	96.0	0.42	2n		0.3			36-Inch	

Heintz, 1978 (1): +0.3, +0.04.
(2): 0.0, +0.03.

6713 HU 625 08 17.5 +32 50

82.242	354.5	1.67	2	6	-0.2	3	2.2	26	
85.162	358.2	1.83	2	6	-0.1	4	1.1	26	
85.203	353.5	1.76	2	5	-0.2	3	1.8	26	
84.202	355.4	1.75	3n		1.7			26-Inch	

6725 STF 1213 08 17.9 +06 28

87.207	308.8	5.77	4	4	-0.2	3	2.0	26	
87.213	309.7	6.31	2	7	-0.1	3	2.0	26	
87.224	308.4	6.21	2	8	-0.3	3	0.6	26	
87.215	309.0	6.10	3n		1.5			26-Inch	

HJ 4073 08 18.2 -37 23

80.251	176.9	1.97	2	6	+0.8	3	0.7	36	
80.254	176.1	2.04	2	8	+0.5	3	0.4	36	
80.252	176.5	2.00	2n		0.6			36-Inch	

6721 STF 1211 08 18.3 +38 59

76.966	298.3	0.29	2	6	0.0	4	0.3	26	
77.149	302.6	0.35	2	5	0.0	3	0.0	26	
77.169	301.6	0.30	2	6	+0.1	3	0.3	26	
77.188	304.2	0.33	2	5	0.0	4	0.6	26	
82.242	288.1	0.30	2	6	-0.2	3	0.0	26	
77.118	301.7	0.32	4n		0.3			26-Inch	
82.242	288.1	0.30	1n		0.0			26-Inch	

Baize, 1984: -2.5, +0.04; - 3.2, +0.15.
Heintz, 1966: +3.3, +0.09; +16.9, +0.18.
The predicted close approach has not yet occurred.

JSP 257 08 18.3 -33 23

80.246	118.4	0.39	2	5	+0.8	3	0.0	36	
80.249	118.0	0.46	2	9	+0.5	3	0.4	36	
80.254	118.8	0.44	2	7	+0.4	3	0.3	36	
80.250	118.4	0.43	3n		0.2			36-Inch	

6727 STF 1205 08 19.3 +56 27

78.943	169.6	1.64	1	5	-0.2	3	0.3	26	
79.206	171.2	1.66	2	5	+0.1	3	0.3	26	
79.219	170.6	1.61	2	5	0.0	3	0.4	26	
79.123	170.5	1.64	3n		0.3			26-Inch	

DAW 44 08 19.6 -40 27

83.167	162.0	0.58	2	5	+0.2	2	0.2	60	
83.170	160.0	0.63	2	3	+0.4	2		60	
83.173	158.7	0.57	2	5	+0.7	2	0.2	60	
83.170	160.2	0.59	3n		0.2			60-Inch	

6754 A 338 08 20.7 -05 10

83.151	10.3	0.46	2	7	+0.8	3	0.3	36	
83.154	9.1	0.47	2	6	+0.9	3	0.3	36	
83.152	9.7	0.46	2n		0.3			36-Inch	

6749	PTT 21					08 21.2	+37 58		
78.943	181.5	4.70	2	4	0.0	3	0.3	26	
80.095	181.7	4.65	2	5	0.0	3	0.0	26	
81.232	181.6	4.69	2	6	-0.2	3	0.5	26	
80.090	181.6	4.68	3n	0.3	26-Inch				
6762	STF 1216					08 21.4	-01 36		
77.281	276.3	0.49	2	6	0.0	3	0.3	26	
77.284	277.8	0.45	2	4	0.0	3	0.3	26	
78.127	276.0	0.46	2	5	-0.2	3	0.2	26	
78.149	276.7	0.49	2	4	0.0	3		26	
85.214	282.7	0.55	2	4	-0.2	3	0.3	26	
85.233	281.6	0.52	2	7	-0.1	3	0.5	26	
86.230	284.6	0.65	2	6	-0.2	3	0.5	26	
86.249	283.8	0.62	2	6	0.0	3	0.4	26	
87.114	282.5	0.55	2	6	0.0	3	0.4	26	
87.174	285.4	0.50	2	5	-0.3	3	0.3	26	
87.194	286.8	0.54	2	7	-0.1	3	0.5	26	
87.213	284.2	0.49	2	7	-0.1	3	0.2	26	
77.710	276.7	0.47	4n	0.3	26-Inch				
85.732	283.2	0.58	4n	0.4	26-Inch				
87.174	284.7	0.52	4n	0.3	26-Inch				

Baize, 1983: +1.5, -0.03; +0.4, +0.09; +0.5, +0.03.

	FIN 75					08 21.5	-56 26		
83.176	208.4	0.39	1	8	+0.8	2	1.0	60	
83.184	208.8	0.40	2	5	+0.9	2		60	
83.180	208.6	0.40	2n	1.0	60-Inch				

Direct motion with distance unchanged.

6766	A 1077					08 21.8	-08 25		
80.251	83.2	0.44	2	6	+0.4	3	0.1	36	
80.254	78.8	0.43	2	7	+0.6	3	0.1	36	
80.257	81.6	0.48	2	7	+0.6	3	0.3	36	
80.254	81.2	0.45	3n	0.2	36-Inch				
6780	I 797					08 22.6	-22 08		
83.145	317.1	0.47	2	7	+0.8	3	0.5	36	
83.148	316.6	0.39	2	7	+1.0	3	0.8	36	
83.146	316.8	0.43	2n	0.6	36-Inch				
6771	A 547					08 23.0	+30 02		
78.127	244.3	1.73	2	5	-0.1	3	0.3	26	
79.181	243.3	1.83	2	6	0.0	3	0.5	26	
79.219	243.2	1.72	2	5	0.0	3	0.3	26	
78.842	243.6	1.76	3n	0.4	26-Inch				

6776	HO 525					08 23.1	+20 01		
81.267	129.9	0.22	2	7	0.0	3	0.0	26	
82.242	118.7	0.27	2	5	0.0	3		26	
85.162	134.9	0.29	2	5	0.0	4		26	
85.203	131.6	0.28	2	5	-0.1	3	0.0	26	
85.233	128.9	0.29	2	7	-0.2	3	0.0	26	
81.754	124.3	0.24	2n	0.0	26-Inch				
85.199	131.8	0.29	3n	0.0	26-Inch				

Muller, 1978: +5.7, -0.10; +9.4, -0.07.

	I 1180					08 24.4	-41 31		
80.230	35.8	0.35	2	4	+0.3	3	0.7	60	
80.232	35.3	0.33	2	4	+0.2	3	0.8	60	
80.231	35.6	0.34	2n	0.8	60-Inch				
	COU 281					08 24.9	+21 49		
87.174	118.3	0.34	4	6	-0.2	3		26	
87.194	119.2	0.29	2	6	0.0	3		26	
87.213	118.5	0.31	2	8	-0.1	3	0.4	26	
87.194	118.7	0.31	3n	0.4	26-Inch				
	RST 321					08 25.0	-49 10		
80.227	105.6	0.24	2	5	+0.5	3	0.3	60	
80.230	104.9	0.27	2	4	+0.4	3	0.3	60	
80.232	105.5	0.31	2	4	+0.4	3	0.3	60	
83.167	131.0	0.35	2	5	+0.3	2	0.3	60	
83.173	130.8	0.28	2	5	+0.7	2	0.3	60	
83.176	132.4	0.28	2	8	+0.8	2	0.4	60	
80.230	105.3	0.27	3n	0.3	60-Inch				
83.172	131.4	0.30	3n	0.3	60-Inch				

Worley, 1981: -1.8, +0.01; -3.3, -0.01.

6803	SCJ 9					08 25.8	+05 57		
85.214	149.9	3.55	2	5	-0.2	3	0.0	26	
85.233	150.9	3.63	2	6	-0.1	3	0.6	26	
86.230	151.2	3.78	2	6	-0.2	3	0.2	26	
85.559	150.7	3.65	3n	0.3	26-Inch				
	RST 323					08 26.0	-52 00		
83.167	285.9	0.30	2	5	+0.3	2	0.2	60	
83.173	278.2	0.23	2	4	+0.7	2		60	
83.176	282.0	0.24	2	7	+0.9	2	0.2	60	
83.172	282.0	0.26	3n	0.2	60-Inch				

Only two earlier measures, in 1929 and 1948.

6814 HU 714 08 27.0 +32 12

75.249	297.2	0.40	2	7	-0.2	3	0.6	26	
76.262	293.9	0.33	2	7	+0.1	4	0.7	26	
76.966	298.2	0.41	3	5	0.0	4	0.4	26	
77.108	297.1	0.41	2	5	+0.1	4	0.8	26	
76.396	296.6	0.39	4n		0.6			26-Inch	

Baize, 1984: +2.2, -0.01.

FIN 116 08 27.5 -55 01

83.167	62.3	0.21	2	5	+0.5	2	0.0	60	
83.173	68.8	0.20	2	5	+0.9	2	0.0	60	
83.184	63.8	0.19	2	6	+0.9	2	0.0	60	
83.175	65.0	0.20	3n		0.0			60-Inch	

6831 OL 62 08 28.5 -19 47

83.154	180.4	0.80	2	5	+0.9	3	0.6	36	
83.159	177.0	0.80	2	8	+0.6	3	0.3	36	
83.156	178.7	0.80	2n		0.4			36-Inch	

WOR 19 08 28.6 +35 02

85.233	249.9	0.66	2	7	-0.1	3	0.2	26	
86.252	229.4	0.73	2	7	0.0	3		26	
86.255	236.2	0.52	2	5	-0.1	3		26	
87.174	239.7	0.61	2	6	-0.4	3	0.3	26	
86.228	238.8	0.63	4n		0.2			26-Inch	

Couteau, 1982: -1.8, -0.04.
Difficult in the bright Washington sky.

RST 329 08 28.8 -48 11

80.240	106.6	0.30	2	8	+0.3	3	0.3	36	
80.243	106.6	0.31	2	7	+0.3	3	0.3	36	
80.249	105.6	0.29	2	9	+0.4	3	0.0	36	
83.167	107.5	0.32	2	5	+0.6	2	0.3	60	
83.170	107.6	0.34	2	5	+1.0	2	0.3	60	
80.244	106.3	0.30	3n		0.2			36-Inch	
83.170	107.6	0.33	2n		0.3			60-Inch	

6836 B 156 08 29.0 -25 34

83.145	348.1	0.31	2	6	+0.8	3	0.2	36	
83.151	348.3	0.31	2	8	+0.7	3	0.2	36	
83.154	348.1	0.34	2	6	+1.0	3	0.1	36	
83.150	348.2	0.32	3n		0.2			36-Inch	

6844 A 2893 08 30.1 +05 13

77.207	3.3	0.56	1	4	0.0	3	0.2	26	
77.278	0.3	0.60	2	5	0.0	3	0.0	26	
77.281	0.6	0.65						26	
78.064	1.4	0.60	1	6	0.0	3	0.1	26	
87.213	1.2	0.66	1	7	0.0	3	0.2	26	
87.224	2.8	0.62	1	6	-0.2	3	0.5	26	
87.232	359.8	0.68	3	4	0.0	3		26	
87.273	359.1	0.66	2	8	-0.2	3	0.3	26	
77.458	1.4	0.60	4n		0.1			26-Inch	
87.236	0.7	0.66	4n		0.3			26-Inch	

6847 B 158 08 30.4 -26 02

83.145	38.8	0.99	2	6	+0.9	3	0.0	36	
83.151	39.2	0.93	2	8	+0.8	3	0.2	36	
83.148	39.0	0.96	2n		0.1			36-Inch	

6851 HU 716 08 31.6 +34 58

77.169	57.8	0.27	1	7	0.0	3	1.5	26	
77.193	58.1	0.33	3	6	-0.2	3	1.8	26	
77.278	42.4	0.25	4	5	0.0	3	1.2	26	
77.281	46.1	0.23	1	6	0.0	3	1.5	26	
78.064	34.0	0.24	2	6	+0.1	3	1.8	26	
81.232	0.4	0.19	2	6	-0.2	3		26	
81.267	0.4	0.20	2	6	-0.1	4	1.8	26	
77.230	51.2	0.27	4n		1.5			26-Inch	
78.064	34.0	0.24	1n		1.8			26-Inch	
81.145	0.4	0.20	2n		1.8			26-Inch	

Baize, 1972: -4.2, -0.01; -14.0, -0.02;
-3.6, +0.02.

6864 HU 717 08 32.6 +32 28

75.249	58.0	0.31	2	7	-0.2	3	0.2	26	
76.262	67.0	0.30	2	7	+0.1	4	0.3	26	
76.966	57.7	0.32	2	5	0.0	4	0.2	26	
77.169	60.9	0.34	2	7	0.0	3	0.2	26	
76.412	60.9	0.32	4n		0.2			26-Inch	

6871 BU 205 08 33.1 -24 36

80.243	350.4	0.50	2	7	+0.3	3	0.3	36	
80.249	349.9	0.45	2	9	+0.4	3	0.3	36	
80.254	349.8	0.49	2	7	+0.6	3	0.2	36	
80.249	350.0	0.48	3n		0.3			36-Inch	

Heintz, 1979: +0.6, -0.07.

FIN 119 08 34.1 -62 56

80.240	171.7	0.48	2	8	+0.3	3	0.3	36	
80.243	171.8	0.40	2	7	+0.7	3	0.3	36	
80.251	167.0	0.47	2	6	+0.6	3	0.0	36	
80.245	170.2	0.45	3n		0.2			36-Inch	

	FIN 335						08 34.5	-32	36
83.151	84.7	0.18	3	7	+0.9	3	0.0	36	
83.159	80.9	0.20	2	7	+0.7	3	0.0	36	
83.155	82.8	0.19	2n		0.0		36-Inch		

Heintz, 1984: -16.7, 0.00.

	B 1616						08 35.0	-43	41
80.224	127.8	0.17	2	7	+0.6	3		60	
80.227	120.0	0.15	2	5	+0.4	3		60	
83.151	113.0	0.20	2	7	+1.0	3	0.2	36	
83.176	115.8	0.17	2	7	+0.9	2	0.3	60	
83.184	120.7	0.17	2	6	+0.8	2	0.2	60	
80.226	123.9	0.16	2n				60-Inch		
83.151	113.0	0.20	1n		0.2		36-Inch		
83.180	118.2	0.17	2n		0.2		60-Inch		

	B 2184						08 38.0	-38	40
80.230	195.2	2.28	2	4	+0.3	3	0.8	60	
80.232	195.3	2.23	2	5	+0.2	3	0.4	60	
80.231	195.2	2.26	2n		0.6		60-Inch		

6899	HU 858						08 38.2	+11	58
78.127	160.3	0.64	1	5	-0.2	3	0.7	26	
81.267	151.1	0.82	2	5	-0.1	4	1.0	26	
82.286	149.3	0.74	2	6	0.0	3	0.8	26	
80.560	153.6	0.73	3n		0.8		26-Inch		

	B 1621						08 38.8	-33	52
80.240	349.8	0.53	2	8	+0.4	3	0.4	36	
80.243	350.2	0.51	2	7	+0.7	3	0.3	36	
83.167	350.4	0.57	2	5	+0.5	2	0.4	36	
83.176	350.8	0.49	2	8	+0.9	2	0.4	36	
80.242	350.0	0.52	2n		0.4		36-Inch		
83.172	350.6	0.53	2n		0.4		60-Inch		

6914	BU 208						08 39.2	-22	40
80.240	335.4	0.19	2	9	+0.7	3		36	
80.243	332.7	0.20	2	7	+0.3	3		36	
80.254	324.7	0.17	1	8	+0.6	3		36	
83.143	19.1	0.30	2	8	+0.9	3	0.6	36	
83.145	18.3	0.31	2	7	+1.0	3	0.8	36	
83.148	17.4	0.33	2	8	+0.9	3	1.0	36	
80.246	330.9	0.19	3n				36-Inch		
83.145	18.3	0.33	3n		0.8		36-Inch		

Newburg, 1968: -19.3, -0.05; +4.4, -0.18.
Baize, 1985: -24.4, -0.09; +4.4, -0.22.

	B 1623						08 39.2	-40	25
80.240	257.0	0.65	2	8	+0.4	3	0.8	36	
80.243	255.2	0.67	2	7	+0.8	3	0.5	36	
80.242	256.1	0.66	2n		0.6		36-Inch		

	COU 47						08 39.8	+20	05
85.203	131.6	0.50	2	5	-0.3	3	0.8	26	
85.233	143.8	0.42	2	7	-0.1	3	1.1	26	
86.249	138.3	0.47	2	6	-0.3	3	0.8	26	
86.252	139.0	0.52	4	7	-0.1	3	1.0	26	
85.734	138.2	0.48	4n		0.9		26-Inch		

6925	A 3064						08 40.3	-15	18
80.230	2.3	0.71	2	3	+0.6	3	0.0	60	
80.257	2.3	0.57	2	6	+0.4	3	0.2	36	
80.230	2.3	0.71	1n		0.0		60-Inch		
80.257	2.3	0.57	1n		0.2		36-Inch		

6926	A 2750						08 40.7	+00	47
73.237	339.2	0.78	1	7	-0.1	3	2.0	26	
75.249	338.1	0.65	1	6	-0.3	3	1.5	26	
77.169	339.0	0.89	1	6	0.0	3	2.0	26	
77.281	340.0	0.54	1	6	0.0	3	1.3	26	
75.734	339.1	0.72	4n		1.7		26-Inch		

No measures since 1922. Increase in angle and decrease in separation.

6930	BU 585						08 41.3	+20	29
77.193	90.2	0.44	2	6	-0.2	3	1.0	26	
77.207	92.8	0.45	2	5	0.0	3	1.2	26	
77.278	88.6	0.49	2	5	0.0	3	1.1	26	
77.281	92.3	0.45	2	6	-0.1	3	1.2	26	
77.240	91.0	0.46	4n		1.1		26-Inch		

6931	KU 32						08 41.3	+19	16
79.219	168.2	2.14	1	5	-0.2	3	2.0	26	
82.286	162.9	2.07	2	6	+0.1	3	2.6	26	
85.162	166.2	1.98	2	5	-0.3	4	1.2	26	
82.222	165.8	2.06	3n		1.9		26-Inch		

	I 315						08 42.0	-42	35
80.230	172.6	0.76	2	4	+0.4	3	0.2	60	
80.232	169.4	0.71	2	5	+0.1	3	0.2	60	
83.167	172.8	0.82	2	4	+0.6	2	0.3	60	
83.173	171.4	0.77	2	4	+0.8	2	0.2	60	
80.231	171.0	0.74	2n		0.2		60-Inch		
83.170	172.1	0.80	2n		0.2		60-Inch		

	B 1624		08 42.1 -52 46		
80.224	333.6	0.21	2 7 +0.7 3		60
80.227	330.8	0.13	2 5 +0.5 3		60
80.232	342.0	0.15	2 5 +0.3 3		60
80.228	335.5	0.16	3n		60-Inch

Heintz, 1969: +13.8, -0.01.

6942	HO 354		08 42.8 +26 04		
86.230	186.2	1.13	2 6 -0.2 3	1.0	26
86.249	186.4	1.12	2 6 -0.2 3	1.0	26
86.252	182.4	1.10	2 7 -0.1 3	1.5	26
86.244	185.0	1.12	3n	1.2	26-Inch

6949	HO 355		08 42.9 -02 42		
77.193	158.0	0.59	3 5 -0.2 3	0.0	26
77.278	161.0	0.63	1 5 +0.1 3	0.0	26
77.281	160.7	0.60	1 6 +0.1 3	0.0	26
77.251	159.9	0.61	3n	0.0	26-Inch

	RST 3603		08 43.2 -12 26		
80.227	36.0	0.19	2 6 +0.6 3	0.0	60
80.232	33.8	0.23	2 6 +0.4 3	0.3	60
83.154	26.2	0.27	2 6 +0.9 3	0.1	36
83.159	30.7	0.22	2 8 +0.7 3	0.3	36
80.230	34.9	0.21	2n	0.2	60-Inch
83.156	28.4	0.24	2n	0.2	36-Inch

Heintz, 1978: +20.1, -0.02; +27.0, -0.02.

6961	B 165		08 43.7 -24 43		
80.246	14.7	0.41	2 5 +0.7 3	0.5	36
80.249	14.6	0.33	2 9 +0.5 3	0.4	36
80.248	14.6	0.37	2n	0.4	36-Inch

6965	B 166		08 43.8 -26 39		
80.249	62.9	2.14	2 8 +0.5 3	3.4	36
80.251	62.5	2.36	2 6 +0.6 3	4.0	36
80.250	62.7	2.25	2n	3.7	36-Inch

6960	A 2547		08 44.0 +02 45		
75.249	98.7	0.23	2 6 -0.3 3	0.8	26
77.281	104.2	0.18	2 6 +0.2 3	0.8	26
76.265	101.4	0.20	2n	0.8	26-Inch

6948	MLB 123		08 44.1 +54 45		
79.206	27.4	1.99	2 5 0.0 3	0.3	26
79.219	27.2	2.10	2 5 0.0 3		26
81.232	26.1	2.09	2 5 -0.3 3	0.4	26
79.886	26.9	2.06	3n	0.4	26-Inch

6976	A 2548		08 45.4 -00 13		
81.232	24.1	0.25	2 5 0.0 3		26
81.232	24.1	0.25	1n		26-Inch

6982	HU 119		08 45.4 -14 07		
80.246	356.4	2.68	1 6 +0.6 3	0.8	36
80.249	356.8	2.66	1 9 +0.6 3	1.2	36
80.257	357.0	2.71	1 6 +0.4 3	0.8	36
80.251	356.8	2.68	3n	0.9	36-Inch

6989	HU 120		08 46.1 -14 22		
80.240	203.4	0.23	2 8 +0.7 3	0.0	36
80.243	203.2	0.23	2 8 +0.4 3	0.2	36
80.246	203.0	0.24	2 5 +0.5 3	0.2	36
83.143	218.9	0.22	2 8 +1.0 3		36
83.145	217.3	0.21	2 8 +1.0 3	0.0	36
83.148	219.0	0.21	2 8 +0.9 3	0.0	36
80.243	203.2	0.23	3n	0.0	36-Inch
83.145	218.4	0.21	3n	0.0	36-Inch

Baize, 1981: +1.6, +0.01; +1.2, -0.01.

	I 1063		08 46.1 -47 24		
83.173	192.4	2.23	4 5 +0.9 2	2.0	60
83.184	191.4	2.18	2 6 +0.8 2	1.8	60
83.178	191.9	2.20	2n	1.9	60-Inch

	HU 1590		08 46.4 -52 50		
83.176	336.9	0.10	2 8 +1.0 2	0.2	60
83.184	327.7	0.13	2 7 +0.8 2	0.0	60
83.180	332.1	0.12	2n	0.1	60-Inch

Closed in with little angular change.

6980	KR 30		08 46.9 +57 42		
79.206	123.9	2.04	2 4 -0.4 3	0.0	26
79.219	123.8	1.78	2 5 -0.2 3	0.1	26
81.232	124.3	1.89	2 5 -0.3 3	0.2	26
79.886	124.0	1.90	3n	0.1	26-Inch

	SLR 9		08 47.2 -63 49				
83.173	357.0	1.31	2 5 +0.9	2 0.8	60		
83.184	359.6	1.24	2 8 +0.9	2 0.9	60		
83.178	358.3	1.28	2n 0.8		60-Inch		

7007	ES 294		08 49.2 +36 09				
76.966	163.6	2.05	2 5 -0.2	4 0.2	26		
77.108	166.2	1.97	2 5 -0.3	4 0.3	26		
77.133	164.9	1.94	2 7 0.0	3 0.1	26		
77.069	164.9	1.99	3n 0.2		26-Inch		

7016	STF 1271		08 50.1 +56 13				
77.108	82.2	1.16	2 4 -0.1	4 1.0	26		
77.169	82.7	1.23	2 7 0.0	3 1.0	26		
77.185	84.2	1.22	2 4 -0.5	3 1.1	26		
77.188	82.0	1.18	2 5 -0.4	4 1.0	26		
77.162	82.8	1.20	4n 1.0		26-Inch		

7039	A 2473		08 50.7 +18 01				
85.179	230.7	0.30	2 5 -0.2	3 0.0	26		
85.203	230.0	0.28	2 6 -0.4	3 0.0	26		
85.233	226.5	0.30	2 6 -0.2	3 0.0	26		
85.294	231.5	0.31	2 5 0.0	3	26		
85.227	229.7	0.30	4n 0.0		26-Inch		

Scardia, 1984: +0.7, -0.02.

7044	VDK 3		08 50.7 +07 52				
77.185	128.9	2.52	2 5 -0.3	3 0.2	26		
77.188	129.7	2.55	2 6 -0.3	4 0.3	26		
77.193	130.7	2.50	2 7 -0.3	3 0.2	26		
77.207	131.1	2.48	2 5 0.0	3 0.2	26		
86.230	135.3	2.30	2 5 -0.2	3 0.3	26		
86.249	136.0	2.22	2 7 -0.2	3 0.1	26		
86.252	133.6	2.25	2 7 0.0	3 0.1	26		
86.255	134.0	2 42	2 6 -0.3	3 0.2	26		
77.193	130.1	2.51	4n 0.2		26-Inch		
86.246	134.7	2.30	4n 0.2		26-Inch		

van der Wiele, 1974: +1.5, -0.08;
+0.4, -0.24.

7033	STF 1275		08 51.4 +57 32				
78.127	199.5	1.90	1 6 -0.4	3 0.2	26		
78.149	196.0	1.83	1 5 -0.1	3 0.1	26		
78.239	199.6	1.89	2 4 0.0	3 0.2	26		
78.242	195.7	1.79	1 4 -0.1	3 0.2	26		
78.189	197.7	1.85	4n 0.2		26-Inch		

	COU 588		08 51.4 +21 05				
85.179	338.3	0.38	2 5 -0.3	3 0.4	26		
86.230	345.5	0.39	2 5 -0.2	3 0.3	26		
86.249	336.4	0.39	2 6 -0.2	3	26		
86.252	340.3	0.46	2 7 -0.1	3 0.2	26		
85.978	340.1	0.40	4n 0.3		26-Inch		

7049	STF 1287		08 51.5 +12 08				
77.185	89.6	2.14	2 4 -0.2	3 2.2	26		
77.188	89.7	2.08	2 6 -0.2	4 2.2	26		
77.193	90.4	2.10	2 7 -0.2	3 2.0	26		
77.207	90.6	2.14	2 5 0.0	3 2.0	26		
77.193	90.1	2.12	4n 2.1		26-Inch		

7050	BU 587		08 51.6 -07 10				
80.251	129.0	1.36	2 6 +0.6	3 2.0	36		
80.254	127.0	1.27	2 8 +0.5	3 2.7	36		
80.257	127.8	1.17	2 6 +0.4	3 2.6	36		
80.254	127.9	1.27	3n 2.4		36-Inch		

7053	BU 407		08 51.7 -06 47				
79.206	166.5	6.04	1 4 0.0	3 2.5	26		
82.286	164.7	5.87	1 5 +0.1	3 2.0	26		
80.746	165.6	5.96	2n 2.2		26-Inch		

Not measured since 1915. Unchanged.

	B 1633		08 51.7 -31 09				
83.167	240.7	0.24	2 5 +0.6	2	60		
83.176	237.6	0.20	2 7 +1.0	2 0.5	60		
83.172	239.2	0.22	2n 0.5		60-Inch		

Angular increase.

7054	A 1584		08 53.1 +54 57				
76.232	143.6	0.24	2 7 0.0	3 0.0	26		
76.262	146.3	0.26	3 7 -0.1	4 0.0	26		
77.169	155.6	0.27	2 7 0.0	3 0.0	26		
77.185	156.5	0.30	1 5 -0.4	3 0.0	26		
78.064	153.3	0.26	2 6 0.0	3 0.0	26		
78.127	154.3	0.27	2 6 -0.4	3 0.0	26		
78.149	155.2	0.25	3 5 0.0	3 0.0	26		
79.181	170.9	0.19	2 5 -0.3	3 0.0	26		
79.219	168.7	0.20	2 5 -0.2	3 0.0	26		
80.095	184.3	0.26	2 6 +0.1	3 0.0	26		
80.295	183.8	0.23	1 8 -0.1	3 0.0	26		
82.286	214.9	0.21	2 6 +0.1	3	26		
85.140	262.5	0.14	2 7 0.0	4 0.0	26		
85.294	269.8	0.14	2 5 0.0	3	26		
76.712	150.5	0.27	4n 0.0		26-Inch		
78.113	154.3	0.26	3n 0.0		26-Inch		
79.698	176.9	0.22	4n 0.0		26-Inch		
82.286	214.9	0.21	1n		26-Inch		
85.217	266.2	0.14	2n 0.0		26-Inch		

Heintz, 1981: - 1.6, -0.03; -7.0, 0.00;
+ 1.0, +0.01; -4.0, +0.06;
-41.0, +0.02.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

COU 1251 08 53.7 +29 08

86.249	184.7	0.59	2	6	-0.1	3	0.6	26
86.252	182.4	0.62	2	7	+0.2	3	0.3	26
86.255	181.7	0.57	2	5	-0.3	3	0.3	26
87.174	184.0	0.57	2	6	-0.2	3	0.5	26
86.252	182.9	0.59	3n		0.4		26-Inch	

COU 773 08 53.9 +19 58

85.179	33.7	0.25	2	5	-0.1	3		26
85.203	45.8	0.18	2	5	-0.2	3		26
85.233	38.3	0.22	2	5	0.0	3		26
85.205	39.3	0.22	3n				26-Inch	

7071 STF 1291 08 54.3 +30 34

78.127	314.9	1.36	2	6	-0.2	3	0.4	26
78.149	315.2	1.37	2	5	0.0	3	0.2	26
78.239	316.7	1.32	2	4	0.0	3	0.3	26
78.242	316.0	1.41	2	5	-0.3	3	0.2	26
87.174	312.3	1.45	2	7	-0.3	3	0.3	26
87.194	313.5	1.42	2	7	-0.3	3	0.0	26
87.213	314.8	1.50	2	6	-0.2	3	0.0	26
87.232	314.8	1.46	2	5	-0.4	3	0.0	26
78.189	315.7	1.36	4n		0.3		26-Inch	
87.203	313.8	1.46	4n		0.1		26-Inch	

7080 BU 24 08 54.3 -08 46

80.251	175.3	1.13	1	6	+0.6	3	1.2	36
80.254	175.4	1.24	1	8	+0.6	3	0.7	36
80.257	175.1	1.22	1	7	+0.5	3	1.0	36
80.254	175.3	1.20	3n		1.0		36-Inch	

7082 A 2131 08 54.9 +26 13

77.133	145.5	0.22	1	8	+0.1	3	1.0	26
77.193	133.2	0.25	3	7	-0.1	3	1.4	26
77.281	142.8	0.22	1	6	0.0	3	1.5	26
81.232	179.1	0.32	2	6	0.0	3	1.0	26
82.286	179.5	0.34	2	7	-0.5	3	1.2	26
86.255	196.6	0.35	2	6	-0.2	3	1.0	26
87.174	197.3	0.35	2	7	-0.2	3	1.0	26
87.194	201.2	0.35	2	6	-0.3	3	1.0	26
87.213	199.1	0.37	2	6	0.0	3	1.5	26
77.202	140.5	0.23	3n		1.3		26-Inch	
81.759	179.3	0.33	2n		1.1		26-Inch	
86.957	198.6	0.36	4n		1.1		26-Inch	

Baize, 1980: +1.2, 0.00; +5.1, 0.00;
-0.6, -0.01.

FIN 120 08 55.2 -62 54

83.173	159.5	1.68	2	4	+0.9	2	1.0	60
83.184	158.7	1.64	2	7	+0.9	2	1.5	60
83.178	159.1	1.66	2n		1.2		60-Inch	

7067 STF 1280 08 55.9 +70 48

77.108	107.0	1.28	2	4	-0.1	4	0.1	26
77.149	107.9	1.40	2	5	-0.5	3	0.2	26
77.169	107.2	1.45	2	7	+0.1	3	0.1	26
77.185	106.0	1.45	2	5	-0.5	3	0.2	26
85.140	136.9	1.16	4	7	+0.1	4	0.3	26
85.162	136.7	1.17	2	5	-0.4	4	0.2	26
85.179	138.3	1.10	2	5	-0.5	3	0.2	26
85.203	135.2	1.08	2	6	-0.1	3	0.3	26
87.174	148.5	1.05	2	6	-0.4	3	0.2	26
87.194	146.2	1.01	2	7	-0.4	3	0.4	26
87.213	147.3	1.02	2	7	-0.4	3	0.2	26
87.232	147.7	1.03	2	5	-0.3	3	0.3	26
77.153	107.0	1.40	4n		0.1		26-Inch	
85.171	136.8	1.13	4n		0.2		26-Inch	
87.203	147.4	1.03	4n		0.3		26-Inch	

Heintz, 1974: -0.8, +0.04; -2.6, +0.01;
-1.8, -0.06.
Rapid motion near periastron.

7102 A 2968 08 57.1 +10 45

77.207	134.4	1.14	2	5	0.0	3	0.1	26
77.281	135.4	1.18	2	7	0.0	3	0.1	26
78.149	134.1	1.12	2	5	+0.1	3	0.1	26
77.546	134.6	1.15	3n		0.1		26-Inch	

7113 A 1974 08 58.7 +25 23

75.249	215.9	0.22	1	7	-0.4	3	0.0	26
76.262	220.6	0.19	2	5	0.0	4	0.0	26
77.108	224.8	0.24	2	5	0.0	3	0.0	26
77.188	212.5	0.25	2	5	-0.2	4	0.0	26
76.452	218.4	0.22	4n		0.0		26-Inch	

7117 HU 861 08 58.7 +14 14

77.281	22.6	0.27	1	7	+0.1	3	0.4	26
78.149	24.5	0.27	2	5	+0.2	3	0.3	26
79.181	27.9	0.24	2	6	-0.2	3	0.0	26
78.204	25.0	0.26	3n		0.2		26-Inch	

7118 STF 1296 08 59.3 +34 57

85.179	75.9	1.94	2	4	0.0	3	0.4	26
85.203	74.6	1.92	2	5	0.0	3	0.4	26
85.214	73.7	1.95	2	4	-0.4	3	0.5	26
85.199	74.7	1.94	3n		0.4		26-Inch	

7131 HU 225 09 00.1 -12 27

80.224	222.0	0.33	2	6	+0.6	3	0.2	60
80.227	221.6	0.33	2	5	+0.4	3		60
83.143	228.8	0.33	2	7	+1.0	3	0.0	36
83.145	227.7	0.41	2	7	+1.2	3	0.3	36
83.148	225.8	0.32	2	8	+1.2	3	0.2	36
80.226	221.8	0.33	2n		0.2		60-Inch	
83.145	227.4	0.35	3n		0.2		36-Inch	

Worley, 1981: -3.4, 0.00; -3.8, 0.00.

7124 HU 718 09 00.5 +32 25

79.219	96.0	0.19	2	5	-0.1	3	0.0	26
80.295	91.0	0.20	2	7	+0.1	3	0.0	26
82.286	87.2	0.18	2	6	+0.3	3	0.0	26
80.600	91.4	0.19	3n		0.0		26-Inch	

Baize, 1984: +6.2, 0.00.

KUI 37 09 00.8 +41 48

77.149	58.8	0.52	4	5	-0.1	3	2.0	26
77.169	62.0	0.56	1	7	-0.2	3	2.2	26
77.193	61.0	0.47	1	7	0.0	3	1.8	26
77.278	60.3	0.55	1	6	-0.1	3	2.2	26
78.064	42.3	0.56	1	7	0.0	3	2.2	26
79.181	30.4	0.72	2	5	-0.3	3	1.8	26
79.219	37.8	0.51	2	5	-0.2	3	2.5	26
80.295	26.4	0.60	1	7	0.0	3	2.0	26
81.232	17.2	0.91	1	5	0.0	3	2.5	26
82.286	13.4	0.75	3	6	-0.4	3	1.8	26
85.233	335.0	0.54	2	6	-0.1	3	1.8	26
85.294	332.4	0.63	2	4	-0.1	3	2.0	26
86.249	313.2	0.47	3	6	-0.1	3	1.8	26
86.252	313.4	0.51	1	7	-0.1	3	2.0	26
86.255	320.5	0.46	1	6	-0.2	3	2.0	26
87.174	292.9	0.53	2	7	-0.1	3	2.0	26
87.194	297.9	0.41	1	6	-0.2	3	2.0	26
87.213	294.3	0.55	2	6	-0.4	3	1.7	26
87.273	295.6	0.46	2	8	0.0	3	2.0	26
77.197	60.5	0.52	4n		2.0		26-Inch	
78.821	36.8	0.60	3n		2.2		26-Inch	
81.271	19.0	0.75	3n		2.1		26-Inch	
85.264	333.7	0.58	2n		1.9		26-Inch	
86.252	315.7	0.48	3n		1.9		26-Inch	
87.214	295.2	0.49	4n		1.9		26-Inch	

Heintz, 1967: +1.2, -0.02; -2.1, -0.04;
+3.5, +0.06; +1.8, +0.04;
-0.3, -0.01; -2.7, +0.03.

7149 A 3071 09 01.7 -08 33

80.251	154.4	1.13	2	6	+0.6	3	0.0	36
80.254	152.8	1.20	2	8	+0.6	3	0.1	36
80.257	154.8	1.14	2	7	+0.3	3	0.2	36
83.154	155.0	1.21	2	7	+0.7	3	0.2	36
83.159	153.1	1.20	2	8	+0.5	3	0.1	36
80.254	154.0	1.16	3n		0.1		36-Inch	
83.156	154.0	1.20	2n		0.2		36-Inch	

7147 STF 1301 09 01.9 +26 13

86.230	0.1	10.24	2	5	-0.1	3	0.3	26
86.249	0.3	10.21	2	6	0.0	3	0.3	26
86.252	358.3	10.19	1	7	+0.1	3	0.3	26
86.244	359.6	10.21	3n		0.3		26-Inch	

7158 A 1585 09 03.6 +47 09

77.149	291.8	0.32	3	5	0.0	3	0.3	26
77.169	288.1	0.29	1	7	0.0	3	0.3	26
77.185	288.4	0.28	2	5	-0.2	3	0.3	26
77.188	286.6	0.28	3	6	-0.2	4	0.4	26
77.173	288.7	0.29	4n		0.3		26-Inch	

Morel, 1970: +0.6, +0.03.
Docobo, Costa, 1987(1): -0.9, +0.02.
(2): -0.9, +0.01.

RST 2599 09 04.4 -33 06

83.167	299.1	0.18	2	5	+0.5	2		60
83.173	294.8	0.18	2	4	+0.9	2		60
83.184	293.6	0.14	2	8	+0.8	2		60
83.175	295.8	0.17	3n				60-Inch	

Closed in.

7168 HU 123 09 06.4 +63 02

76.262	231.9	0.64	2	7	0.0	4	0.3	26
77.133	227.2	0.66	2	6	+0.2	3	0.2	26
77.169	230.4	0.70	2	6	0.0	3	0.3	26
76.855	229.8	0.67	3n		0.3		26-Inch	

I 492 09 07.7 -44 38

83.167	142.2	0.29	2	5	+0.6	2	0.7	60
83.170	145.2	0.35	2	4	+0.5	2		60
83.168	143.7	0.32	2n		0.7		60-Inch	

FIN 24 09 07.9 -34 07

83.176	42.7	1.31	2	7	+0.8	2	0.3	60
83.184	44.2	1.30	2	8	+0.8	2	0.7	60
83.180	43.4	1.30	2n		0.5		60-Inch	

7205 B 177 09 08.2 -28 29

80.240	192.3	0.17	2	8	+0.4	3		36
80.243	198.4	0.16	2	7	+0.5	3		36
80.246	199.0	0.21	2	5	+0.6	3		36
83.154	204.5	0.18	2	6	+0.7	3		36
83.159	201.3	0.16	2	8	+0.5	3		36
80.243	196.6	0.18	3n				36-Inch	
83.156	202.9	0.17	2n				36-Inch	

ALD 42 09 08.4 -43 45

83.167	214.2	2.56	1	5	+0.7	2	1.4	60
83.173	210.9	2.56	2	5	+0.9	2	1.2	60
83.184	212.6	2.47	2	8	+0.9	2	0.8	60
83.175	212.6	2.53	3n		1.1		60-Inch	

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

7219 B 178 09 09.6 -28 29

80.224	94.2	0.33	2	7	+0.7	3	0.1	60	
80.232	91.3	0.21	2	6	+0.1	3	0.5	60	
80.228	92.8	0.27	2n		0.3			60	Inch

7223 B 179 09 10.0 -28 45

80.224	186.0	0.51	2	6	+0.6	3	0.2	60	
80.232	187.4	0.53	2	6	+0.2	3	0.2	60	
83.143	185.1	0.53	2	7	+1.0	3	0.2	36	
83.154	182.4	0.47	2	4	+1.9	3		36	
83.159	185.1	0.58	2	7	+0.6	3	0.2	36	
80.228	186.7	0.52	2n		0.2			60	Inch
83.152	184.2	0.53	3n		0.2			36	Inch

Costa, Docobo, 1983: +3.3, +0.04;
+3.3, +0.04.

7203 STF 1306 09 10.4 +67 08

77.149	5.1	3.17	1	5	0.0	3	3.8	26	
77.169	6.5	3.12	1	7	+0.1	3	4.2	26	
77.185	5.0	3.19	1	4	-0.1	3	4.2	26	
77.188	5.4	3.15	1	6	-0.2	4	4.2	26	
85.162	358.5	3.29	2	4	-0.5	4	3.0	26	
85.179	359.2	3.39	2	5	-0.6	3	3.2	26	
85.203	359.0	3.25	2	6	-0.1	3	3.0	26	
77.173	5.5	3.16	4n		4.1			26	Inch
85.181	358.9	3.31	3n		3.1			26	Inch

Baize, 1948: +0.9, +0.05; +2.8, -0.08.
Scardia, 1985: +5.4, +0.16; -1.5, +0.02.
The later orbit is hardly an improvement.

7225 I 824 09 11.0 -19 29

80.240	62.1	0.21	2	8	+0.5	3	0.3	36	
80.243	66.8	0.20	2	8	+0.5	3		36	
80.246	68.3	0.23	2	5	+0.4	3		36	
80.243	65.7	0.21	3n		0.3			36	Inch

7240 A 2973 09 12.4 -06 56

80.251	12.3	3.01	1	7	+0.5	3	4.2	36	
80.254	11.0	2.89	1	8	+0.5	3	4.5	36	
80.257	12.3	3.00	1	7	+0.4	3	3.2	36	
80.254	11.9	2.97	3n		4.0			36	Inch

7236 STF 1322 09 12.7 +16 31

77.188	53.8	1.79	2	5	0.0	4	0.0	26	
77.193	54.2	1.70	2	6	0.0	3	0.2	26	
77.207	55.8	1.79	2	5	-0.1	3	0.2	26	
77.278	54.4	1.77	2	5	-0.2	3	0.4	26	
77.216	54.6	1.76	4n		0.2			26	Inch

7242 A 2974 09 12.9 +10 40

77.281	56.5	1.69	2	7	0.0	3	3.5	26	
79.181	57.5	1.85	2	6	-0.2	3	3.5	26	
79.219	52.5	1.67	2	5	+0.1	3	3.4	26	
78.560	55.5	1.74	3n		3.5			26	Inch

Increase in angle and separation.

7245 AG 163 09 13.6 +24 03

85.179	321.4	5.14	2	5	-0.2	3	0.5	26	
85.203	320.0	5.15	2	5	-0.1	3	0.1	26	
85.233	319.7	5.09	2	5	-0.2	3	0.1	26	
85.205	320.4	5.13	3n		0.2			26	Inch

7229 STF 1313 09 13.7 +69 58

77.149	275.9	1.15	2	5	0.0	3	0.2	26	
77.169	276.5	1.09	2	6	+0.2	3	0.0	26	
77.185	275.8	1.09	2	4	0.0	3	0.2	26	
77.188	275.5	1.09	2	5	0.0	4	0.0	26	
85.140	274.9	1.07	2	7	0.0	4	0.0	26	
85.162	281.2	1.06	2	4	-0.6	4		26	
85.179	279.1	1.02	2	5	-0.6	3	0.2	26	
85.203	277.4	1.01	2	5	-0.2	3	0.0	26	
77.173	275.9	1.10	4n		0.1			26	Inch
85.171	278.2	1.04	4n		0.1			26	Inch

7257 BU 455 09 14.8 +04 13

77.207	69.3	1.93	2	4	0.0	3	1.6	26	
77.278	69.8	1.88	2	5	-0.1	3	1.6	26	
77.281	70.0	1.83	2	6	0.0	3	0.5	26	
77.255	69.7	1.88	3n		1.2			26	Inch

7262 A 2754 09 15.3 +06 01

77.207	0.4	1.05	1	4	0.0	3	1.0	26	
77.278	0.1	1.22	1	5	-0.1	3	1.0	26	
77.281	0.3	1.06	1	6	0.0	3	0.6	26	
77.255	0.3	1.11	3n		0.9			26	Inch

7269 A 1756 09 16.1 -00 58

80.295	152.7	0.62	1	6	0.0	3	1.2	26	
80.295	152.7	0.62	1n		1.2			26	Inch

7249 STF 1305 09 17.6 +79 48

79.206	5.6	1.59	1	4	-0.2	3	0.6	26	
86.252	0.9	1.51	1	6	-0.2	3	0.4	26	
87.232	0.9	1.64	2	4	-0.5	3	0.8	26	
84.230	2.5	1.58	3n		0.6			26	Inch

7284 STF 3121 09 17.9 +28 35

77.108	51.5	0.26	2	5	+0.1	3	0.2	26
77.133	50.1	0.30	2	7	+0.1	3	0.0	26
77.149	52.2	0.31	2	5	-0.8	3	0.0	26
77.169	46.7	0.30	3	7	+0.2	3	0.0	26
78.064	77.2	0.19	2	6	-0.1	3	0.0	26
78.127	76.7	0.20	2	5	-0.3	3	0.0	26
78.149	75.9	0.18	2	5	0.0	3	0.0	26
79.181	129.8	0.12	2	6	-0.3	3		26
79.219	127.0	0.15	2	6	0.0	3		26
80.095	179.3	0.21	2	6	-0.2	3		26
80.295	178.7	0.24	2	7	-0.1	3	0.0	26
81.232	194.7	0.30	2	6	-0.2	3	0.1	26
82.286	200.4	0.44	2	5	+0.1	3	0.0	26
82.313	201.2	0.43	2	7	+0.4	3	0.2	26
82.324	200.4	0.50	2	3	0.0	3		26
82.327	197.7	0.46	2	5	+0.2	3	0.2	26
85.140	209.0	0.45	2	7	0.0	4	0.2	26
85.179	212.6	0.43	2	4	-0.1	3	0.2	26
85.203	212.5	0.52	2	5	-0.1	3	0.0	26
85.233	208.5	0.57	2	5	-0.2	3	0.2	26
86.230	214.1	0.57	2	5	-0.2	3		26
86.249	215.6	0.50	2	5	-0.1	3		26
86.252	216.2	0.43	2	7	+0.2	3	0.0	26
86.255	219.3	0.56	2	5	-0.3	3		26
87.174	221.8	0.39	2	7	-0.1	3	0.0	26
87.194	225.7	0.36	2	7	-0.4	3	0.0	26
87.213	223.4	0.40	2	6	-0.1	3	0.0	26
87.232	222.1	0.36	2	6	-0.1	3	0.1	26

77.140	50.1	0.29	4n	0.0	26-Inch
78.113	76.6	0.19	3n	0.0	26-Inch
79.200	128.9	0.14	2n		26-Inch
80.195	179.0	0.22	2n	0.0	26-Inch
82.096	198.9	0.43	5n	0.1	26-Inch
85.189	210.6	0.49	4n	0.1	26-Inch
86.246	216.3	0.52	4n	0.0	26-Inch
87.203	223.2	0.38	4n	0.0	26-Inch

van den Bos, 1938: +7.4, -0.03;
+18.7, 0.00;
+5.8, +0.04;
+3.1, +0.02;
+0.7, +0.02;
-2.8, +0.02;
-2.3, +0.09;
-1.2, +0.01.

KUI 39 09 18.1 +77 15

75.249	201.2	0.83	1	7	-0.3	3	0.1	26
76.262	202.3	0.73	1	7	-0.1	4	0.1	26
77.133	203.7	0.73	1	7	+0.1	3	0.3	26
77.169	201.9	0.78	1	6	+0.2	3	0.2	26
85.140	181.1	0.72	2	7	0.0	4	0.2	26
86.252	181.2	0.69	1	6	0.0	3	0.1	26
87.232	171.9	0.65	1	5	-0.4	3		26
87.273	179.5	0.66	1	8	0.0	3		26

76.453	202.3	0.77	4n	0.2	26-Inch
86.474	178.4	0.68	4n	0.2	26-Inch

Baize, 1973: +1.2, +0.04; -1.5, +0.02.
Heintz, 1974: +1.1, +0.10; +4.6, +0.08.

The later orbit is no improvement.

7287 A 1757 09 18.1 -01 22

79.206	101.8	1.16	2	3	-0.2	3	1.2	26
81.232	100.9	1.36	2	4	-0.1	3	1.3	26

80.219	101.4	1.26	2n	1.2	26-Inch

7289 A 2556 09 18.2 +02 45

77.193	336.4	0.83	1	6	0.0	3	0.3	26
77.278	338.1	0.92	2	5	0.0	3	0.6	26
79.181	337.5	0.99	1	6	-0.2	3	0.5	26

77.884	337.3	0.91	3n	0.5	26-Inch

7288 A 221 09 18.6 +29 45

77.133	275.8	0.23	2	6	+0.2	3		26
77.193	278.5	0.30	2	5	0.0	3	0.0	26
77.281	275.1	0.22	2	6	0.0	3	0.2	26

77.202	276.5	0.25	3n	0.1	26-Inch

Has rapidly closed in since this measure.

7316 A 1082 09 20.6 -07 41

80.249	32.4	0.23	2	9	+0.1	3	0.8	36
80.251	25.2	0.23	2	7	+0.4	3		36
80.254	27.2	0.20	2	8	+0.5	3	0.6	36

80.251	28.3	0.22	3n	0.7	36-Inch

Rapid motion in the last decade.

7318 I 198 09 20.7 -29 13

80.224	54.4	0.15	2	7	+0.7	3		60
80.232	54.6	0.13	2	6	+0.4	3		60

80.228	54.5	0.14	2n		60-Inch

7307 STF 1338 09 21.0 +38 12

80.295	255.8	0.99	2	7	0.0	3	0.2	26
81.232	260.5	1.12	2	5	0.0	3	0.4	26
82.324	262.5	1.02	2	3	0.0	3	0.3	26
82.327	259.9	1.04	2	5	+0.1	3	0.3	26
85.140	263.7	0.97	2	8	0.0	4	0.2	26
85.179	264.5	0.97	2	5	-0.2	3	0.3	26
85.203	261.8	0.89	2	5	-0.1	3	0.3	26
85.233	263.5	1.02	2	5	-0.2	3	0.3	26

81.544	259.7	1.04	4n	0.3	26-Inch
85.189	263.4	0.96	4n	0.3	26-Inch

Arend, 1953: +2.8, -0.04; +0.3, -0.11.

7321 A 127 09 21.4 +19 43

77.278	30.2	1.35	1	5	0.0	3	0.6	26
78.064	31.2	1.45	2	6	0.0	3	0.4	26
79.181	31.0	1.44	2	6	-0.2	3	0.8	26

78.174	30.8	1.41	3n	0.6	26-Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

	B 775		09 22.0 -20 43		
80.227	298.6	2.97	2 4 +0.2 3 4.0 60		
80.232	294.4	2.90	2 6 +0.2 3 4.0 60		
80.230	296.5	2.94	2n 4.0	60-Inch	

7334	A 1342		09 22.9 -09 51		
80.240	16.8	0.16	2 8 +0.5 3 0.0 36		
80.243	13.6	0.14	2 8 +0.4 3 36		
80.249	4.6	0.16	2 9 +0.1 3 36		
80.244	11.7	0.15	3n 0.0	36-Inch	

Finsen, 1976: -1.9, +0.02.

7336	AG 165		09 23.3 +22 10		
73.240	15.0	1.28	2 6 0.0 3 0.0 26		
77.108	14.4	1.24	2 5 -0.1 3 0.0 26		
77.149	17.8	1.32	1 5 0.0 3 0.2 26		
75.832	15.7	1.28	3n 0.1	26-Inch	

7352	STF 1348		09 24.5 +06 21		
77.188	316.9	1.98	2 5 -0.1 4 0.2 26		
77.193	316.9	1.96	2 6 0.0 3 0.2 26		
77.207	317.7	2.07	2 4 0.0 3 0.1 26		
77.278	318.6	2.08	2 5 0.0 3 0.2 26		
77.216	317.5	2.02	4n 0.2	26-Inch	

7359	HU 869		09 25.1 +14 49		
77.188	283.5	0.52	2 5 0.0 3 0.3 26		
77.193	283.5	0.57	2 7 0.0 3 0.3 26		
77.207	279.2	0.47	4 4 0.0 3 0.2 26		
77.278	280.4	0.57	2 6 0.0 3 0.2 26		
77.216	281.6	0.53	4n 0.2	26-Inch	

7360	A 1343		09 26.1 +53 44		
78.064	13.0	0.29	2 6 0.0 3 0.5 26		
79.181	18.1	0.29	2 6 0.0 3 0.5 26		
79.219	14.5	0.27	1 6 0.0 3 0.6 26		
78.821	15.2	0.28	3n 0.5	26-Inch	

7367	HU 56		09 26.3 -13 30		
80.251	156.7	1.86	2 6 +0.5 3 1.8 36		
80.254	154.0	1.97	2 7 +0.5 3 1.2 36		
80.257	157.4	1.72	2 5 +0.3 3 1.8 36		
80.254	156.0	1.85	3n 1.6	36-Inch	

	B 1122		09 26.4 -42 15		
83.167	200.7	0.18	2 5 +0.6 2 60		
83.176	202.8	0.18	2 7 +0.6 2 0.3 60		
83.172	201.8	0.18	2n 0.3	60-Inch	

7379	JC 5		09 26.8 -28 47		
83.148	274.3	0.54	2 7 +0.8 3 0.7 36		
83.151	274.8	0.56	2 7 +0.9 3 0.6 36		
83.150	274.6	0.55	2n 0.6	36-Inch	

7364	STF 1345		09 27.0 +64 20		
72.276	86.7	2.74	2 6 0.0 3 1.6 26		
76.262	86.4	2.93	2 5 -0.2 4 2.4 26		
77.108	86.7	2.72	2 5 0.0 3 1.6 26		
77.185	87.3	2.97	2 4 -0.3 3 2.4 26		
75.708	86.8	2.84	4n 2.0	26-Inch	

7362	A 1588		09 27.3 -09 13		
80.240	192.9	0.31	2 8 +0.5 3 0.0 36		
80.243	193.5	0.30	2 8 +0.5 3 0.2 36		
80.249	194.0	0.32	2 9 +0.1 3 0.0 36		
80.244	193.5	0.31	3n 0.1	36-Inch	

7384	HO 366		09 27.9 +31 28		
77.188	58.2	0.26	3 5 0.0 3 0.0 26		
77.278	53.5	0.22	2 6 +0.1 3 0.4 26		
77.281	56.6	0.25	1 7 0.0 3 0.3 26		
77.249	56.1	0.24	3n 0.2	26-Inch	

7390	STF 1356		09 28.5 +09 04		
77.108	6.6	0.43	1 5 0.0 3 0.6 26		
77.133	6.3	0.41	1 6 +0.3 3 0.7 26		
77.149	5.5	0.38	1 5 -0.2 3 0.5 26		
77.169	5.4	0.51	1 5 0.0 3 0.8 26		
79.219	11.0	0.41	1 6 0.0 3 0.8 26		
80.095	16.8	0.44	2 6 -0.2 3 0.7 26		
80.295	17.0	0.41	2 7 -0.1 3 0.8 26		
85.140	32.7	0.36	4 7 0.0 4 0.8 26		
85.179	35.4	0.39	2 5 -0.2 3 0.8 26		
85.203	35.1	0.43	2 5 -0.1 3 0.6 26		
85.233	35.6	0.50	2 5 -0.1 3 1.0 26		
77.140	6.0	0.43	4n 0.6	26-Inch	
79.870	14.9	0.42	3n 0.8	26-Inch	
85.189	34.7	0.42	4n 0.8	26-Inch	

van Dessel, 1976: +1.5,-0.06; +1.0,-0.05; +0.4,-0.03.

COU 936 09 29.0 +19 18

87.213	233.6	0.72	2	6	0.0	3	0.9	26
87.232	234.0	0.73	2	6	-0.1	3	1.0	26
87.273	234.2	0.66	2	7	0.0	3	1.4	26
87.239	233.9	0.70	3n		1.1			26-Inch

RST 3640 09 29.4 -12 29

80.243	69.2	0.30	2	8	+0.5	3	0.0	36
80.246	74.1	0.32	2	5	+0.3	3	0.0	36
80.249	63.8	0.32	2	9	+0.2	3	0.0	36
80.246	69.0	0.31	3n		0.0			36-Inch

7400 BU 591 09 29.7 -03 07

80.246	35.3	0.73	2	4	+0.4	3	0.7	36
80.249	34.7	0.96	2	9	+0.3	3	0.8	36
80.251	35.1	0.81	2	6	+0.5	3	1.4	36
80.249	35.0	0.83	3n		1.0			36-Inch

7404 A 130 09 30.5 +20 26

77.108	101.9	0.82	2	5	0.0	3	0.0	26
77.193	105.3	0.87	2	5	0.0	3	0.0	26
77.278	106.3	0.81	2	5	+0.1	3	0.0	26
77.281	106.0	0.77	2	7	+0.1	3	0.0	26
77.215	104.9	0.82	4n		0.0			26-Inch

COP 1 09 30.7 -40 28

83.148	125.1	1.12	2	7	+0.9	3	0.8	36
83.162	128.8	1.11	2	5	+0.5	3	0.5	36
83.155	127.0	1.12	2n		0.6			36-Inch

van den Bos, 1945: +3.8, -0.03.

KUI 41 09 31.3 -13 29

83.143	153.9	0.29	2	7	+0.8	3	0.0	36
83.145	145.3	0.25	2	7	+1.0	3		36
83.159	150.0	0.31	2	7	+0.4	3	0.2	36
83.149	149.7	0.28	3n		0.2			36-Inch

Heintz, 1979: +1.4, -0.03.

7424 OL 40 09 32.2 -25 39

83.143	10.4	1.44	2	7	+0.7	3	1.0	36
83.145	10.1	1.36	2	7	+1.1	3	0.8	36
83.144	10.2	1.40	2n		0.9			36-Inch

7431 A 131 09 33.8 -10 20

80.246	319.6	1.13	2	5	+0.4	3	0.0	36
80.249	322.2	1.08	2	9	+0.3	3	0.0	36
80.251	320.6	1.00	2	7	+0.5	3	0.0	36
80.249	320.8	1.07	3n		0.0			36-Inch

7439 A 1986 09 34.9 -01 23

80.243	179.5	0.20	1	8	+0.5	3	0.0	36
80.249	170.1	0.21	2	9	+0.4	3	0.0	36
80.251	182.3	0.19	1	6	+0.6	3		36
80.248	177.6	0.20	3n		0.0			36-Inch

7432 STF 1363 09 35.3 +60 53

77.207	354.9	10.96	1	4	0.0	3	4.0	26
77.281	355.3	10.91	1	7	0.0	3	3.0	26
78.064	355.4	11.09	1	5	0.0	3	3.5	26
77.517	355.2	10.99	3n		3.5			26-Inch

FIN 383 09 36.6 -24 42

80.232	167.2	0.14	2	6	+0.1	3	0.0	60
80.240	149.1	0.16	2	8	+0.5	3	0.0	36
80.243	148.6	0.16	2	8	+0.6	3	0.0	36
80.249	164.6	0.15	2	7	+0.5	3	0.0	36
80.232	167.2	0.14	1n		0.0			60-Inch
80.244	154.1	0.16	3n		0.0			36-Inch

Either a half or a whole revolution has occurred.

7456 STF 1372 09 37.1 +16 14

79.219	73.6	0.22	2	6	0.0	3		26
79.334	80.5	0.25	2	4	+0.4	3		26
80.095	73.5	0.23	2	5	-0.3	3		26
80.255	78.8	0.22	2	6	0.0	3		26
85.140	97.5	0.21	2	6	0.0	4		26
85.203	94.6	0.20	2	5	-0.1	3		26
85.318	94.3	0.15	2	5	-0.1	3		26
79.736	76.6	0.23	4n					26-Inch
85.220	95.5	0.19	3n					26-Inch

Now moving rapidly.

SEE 115 09 37.3 -53 40

83.148	8.3	0.64	2	8	+0.9	3	0.3	36
83.151	7.4	0.62	2	8	+0.8	3	0.4	36
83.150	7.8	0.63	2n		0.4			36-Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

7460 A 2479 09 37.7 +15 27

76.309	134.3	0.13	2	5	0.0	3	26
76.309	134.3	0.13	1n				26-Inch

Heintz, 1978: +5.2, -0.03.

7470 I 835 09 38.3 -20 32

80.251	180.0	0.46	2	6	+0.7	3	0.4 36
80.254	181.1	0.45	2	8	+0.4	3	0.4 36
80.257	178.5	0.52	2	5	+0.2	3	0.4 36
80.254	179.9	0.48	3n		0.4		36-Inch

RST 4917 09 39.8 -50 08

83.148	45.4	0.49	2	6	+1.0	3	1.2 36
83.151	37.0	0.58	2	7	+0.8	3	1.2 36
83.159	37.2	0.46	1	7	+1.1	3	1.0 36
83.153	39.9	0.51	3n		1.1		36-Inch

I 321 BC 09 39.9 -59 17

80.224	210.9	2.20	2	8	+0.7	3	0.0 60
80.230	210.3	2.29	2	5	+0.5	3	0.0 60
80.227	210.6	2.24	2n		0.0		60-Inch

B 780 09 40.7 -57 59

80.224	254.0	0.12	2	8	+0.6	3	0.0 60
80.230	243.6	0.15	2	5	+0.6	3	60
80.232	245.4	0.17	2	6	+0.2	3	0.0 60
80.229	247.7	0.15	3n		0.0		60-Inch

van den Bos, 1959: +0.6, -0.02.

7484 HU 229 09 42.7 +60 16

77.281	182.2	0.92	1	7	0.0	3	0.3 26
85.203	182.5	0.82	2	5	-0.2	3	0.4 26
86.252	183.2	1.09	2	7	-0.1	3	0.6 26
82.912	182.6	0.91	3n		0.4		26-Inch

FIN 326 09 44.2 -27 47

80.240	329.0	0.15	2	8	+0.5	3	36
80.243	348.5	0.15	2	8	+0.6	3	36
80.249	352.1	0.15	2	9	+0.5	3	0.0 36
80.244	343.2	0.15	3n		0.0		36-Inch

Heintz, 1982: -4.2, +0.02.

7509 I 496 09 45.4 -20 21

80.251	348.8	2.78	2	5	+0.7	3	1.5 36
80.254	348.8	2.74	2	8	+0.4	3	1.4 36
80.257	346.8	2.73	2	5	+0.2	3	1.0 36
80.254	348.1	2.75	3n		1.3		36-Inch

I 172 09 47.5 -37 44

83.167	339.6	0.99	2	5	+0.5	2	1.8 60
83.176	339.1	1.12	2	6	+0.9	2	2.4 60
83.172	339.4	1.06	2n		2.1		60-Inch

7514 HU 630 09 47.7 +50 57

77.207	73.8	2.35	4	4	-0.1	3	0.2 26
77.278	73.5	1.88	2	5	0.0	3	0.1 26
77.281	74.9	2.17	2	7	0.0	3	0.2 26
78.064	75.3	2.08	2	6	-0.1	3	0.0 26
77.458	74.4	2.12	4n		0.1		26-Inch

FIN 147 09 48.0 -61 01

83.151	211.7	0.29	2	6	+0.9	3	0.8 36
83.159	219.5	0.29	2	6	+1.0	3	1.2 36
83.155	215.6	0.29	2n		1.0		36-Inch

This is only the second measure. Nearly a quadrant of retrograde motion has been described.

B 1661 09 48.2 -46 33

80.224	45.0	0.20	1	8	+0.7	3	60
80.232	47.8	0.15	2	5	+0.2	3	60
80.228	46.4	0.18	2n				60-Inch

Direct motion.

COO 90 09 48.7 -44 54

80.246	115.2	2.28	2	5	+0.5	3	0.5 36
80.251	115.0	2.37	2	5	+0.7	3	0.4 36
80.257	115.5	2.29	2	5	+0.4	3	0.4 36
80.251	115.2	2.31	3n		0.4		36-Inch

KUI 44 09 49.8 +21 11

79.334	210.2	0.24	2	5	0.0	3	0.3 26
80.095	209.7	0.25	2	5	-0.4	3	0.3 26
80.295	208.7	0.22	2	7	-0.2	3	0.3 26
85.318	204.4	0.24	2	6	-0.4	3	0.4 26
85.329	207.5	0.16	2	7	-0.2	3	0.7 26
85.351	205.0	0.21	2	5	+0.4	3	0.4 26
79.908	209.5	0.24	3n		0.3		26-Inch
85.333	206.6	0.20	3n		0.5		26-Inch

7535 A 2560 09 50.1 +01 48

77.108	13.1	0.99	4	4	-0.2	3	0.6	26
77.149	12.1	1.19	1	5	+0.3	3	0.6	26
77.169	12.5	1.09	1	5	-0.2	3	1.0	26
77.142	12.6	1.09	3n	0.7			26-Inch	

7538 J 83 09 50.5 +03 37

77.193	239.0	2.17	2	6	-0.2	3	0.3	26
77.281	239.8	2.20	2	6	+0.1	3	0.5	26
78.064	240.3	2.08	2	5	0.0	3	0.2	26
77.513	239.7	2.15	3n	0.3			26-Inch	

7533 KR 33 09 50.9 +58 12

77.207	213.5	2.19	1	4	0.0	3	0.0	26
77.278	215.0	2.17	2	5	0.0	3	0.0	26
77.281	215.8	2.01	2	7	0.0	3	0.0	26
77.255	214.8	2.12	3n	0.0			26-Inch	

7541 HO 369 09 51.2 +36 29

80.095	101.9	0.35	2	5	-0.4	3	0.0	26
80.295	99.5	0.35	2	7	0.0	3	0.3	26
81.232	100.3	0.35	2	5	-0.2	3	0.2	26
86.252	99.7	0.41	2	8	0.0	3	0.2	26
87.174	102.2	0.43	2	7	-0.3	3	0.2	26
87.194	99.2	0.41	2	6	-0.7	3		26
80.541	100.6	0.35	3n	0.2			26-Inch	
86.873	100.4	0.42	3n	0.2			26-Inch	

Baize, 1981: +0.7, +0.01; -0.6, +0.08.

7536 STF 1381 09 51.3 +60 37

77.188	196.4	0.99	1	5	-0.3	3	0.3	26
77.193	196.8	0.95	1	6	0.0	3	0.2	26
77.207	194.4	0.91	2	4	+0.1	3	0.0	26
77.278	195.4	0.98	1	5	+0.1	3	0.2	26
77.216	195.8	0.98	4n	0.2			26-Inch	

RST 1455 09 51.3 -41 09

80.246	67.4	2.84	2	5	+0.6	3	2.2	36
80.251	66.6	2.72	2	5	+0.8	3	2.4	36
80.257	68.4	2.84	2	5	+0.5	3	2.3	36
80.251	67.5	2.80	3n	2.3			36-Inch	

7545 STT 208 09 52.1 +54 04

77.108	85.6	0.26	2	4	0.0	3	0.5	26
77.133	87.5	0.25	2	7	+0.1	3	0.5	26
77.149	87.8	0.26	2	5	-0.3	3	0.4	26
77.169	88.2	0.26	3	6	-0.3	3	0.3	26
78.064	92.4	0.26	2	6	-0.1	3	0.4	26
78.223	92.1	0.23	2	4	+0.2	3	0.4	26
79.181	95.2	0.20	2	5	-0.4	3		26
79.184	97.0	0.23	2	7	0.0	3	0.3	26
80.095	102.8	0.25	2	5	-0.5	3	0.5	26
80.295	104.7	0.21	2	7	-0.1	3	0.4	26
81.232	113.0	0.24	2	5	-0.1	3		26
82.313	121.1	0.25	2	7	0.0	3		26
82.324	121.3	0.25	2	3	0.0	3		26
82.327	120.7	0.25	2	3	-0.2	3		26
82.340	119.7	0.22	2	8	-0.1	4	0.6	26
85.140	139.7	0.24	2	7	-0.2	4		26
85.179	143.1	0.18	2	5	-0.1	3		26
85.203	135.1	0.23	2	5	-0.3	3		26
85.318	145.6	0.19	2	6	-0.6	3	0.5	26
86.252	153.2	0.18	2	8	-0.1	3		26
87.174	157.4	0.17	2	7	-0.4	3		26
87.194	154.6	0.20	2	7	-0.7	3		26
87.232	158.8	0.20	4	6	-0.4	3		26
87.273	161.7	0.18	2	7	-0.2	3		26
77.140	87.3	0.26	4n	0.4			26-Inch	
78.663	94.2	0.23	4n	0.4			26-Inch	
80.541	106.8	0.23	3n	0.4			26-Inch	
82.326	120.7	0.24	4n	0.6			26-Inch	
85.210	140.9	0.21	4n	0.5			26-Inch	
87.025	157.1	0.19	5n				26-Inch	

Heintz, 1971: +2.8, 0.00; +1.7, -0.02;
+3.2, 0.00; +5.2, +0.02;
+2.3, +0.02; +1.2, 0.00.

7547 A 344 09 52.1 +29 16

82.313	58.7	0.72	2	7	0.0	3	0.4	26
82.327	54.6	0.55	2	6	-0.1	3	0.4	26
82.340	64.1	0.56	2	7	+0.3	4	0.4	26
82.327	59.1	0.61	3n	0.4			26-Inch	

7550 A 2561 09 52.1 +02 49

79.219	313.5	0.76	2	5	-0.1	3	0.5	26
80.295	311.5	0.89	2	7	0.0	3	0.6	26
82.286	307.7	1.01	2	5	+0.3	3	0.7	26
82.313	309.5	0.91	2	7	+0.1	3	0.5	26
81.028	310.6	0.89	4n	0.6			26-Inch	

FIN 77 09 53.7 -32 06

83.143	327.9	0.34	2	7	+0.8	3	0.2	36
83.145	322.0	0.35	2	7	+0.9	3	0.2	36
83.162	320.9	0.31	2	5	+0.3	3	0.3	36
83.150	323.6	0.33	3n	0.2			36-Inch	

Direct motion.

FIN 149 09 53.8 -65 00

80.224	177.0	1.12	2	8	+0.7	3	1.8	60	
80.232	174.8	1.10	1	5	+0.1	3	2.8	60	
80.228	175.9	1.11	2n	2.3				60-Inch	

7566 STF 1386 09 55.0 +68 54

77.188	112.4	2.09	2	5	-0.2	3	0.0	26	
77.193	112.5	2.14	2	6	0.0	3	0.1	26	
77.207	113.8	2.11	2	4	+0.1	3	0.0	26	
77.278	112.8	2.09	2	5	0.0	3	0.0	26	
77.216	112.9	2.11	4n	0.0				26-Inch	

RST 448 09 55.5 -57 56

80.246	316.4	2.57	2	4	+0.6	3	0.1	36	
80.254	317.6	2.59	2	6	+0.3	3	0.2	36	
80.257	318.0	2.55	2	5	+0.5	3	0.1	36	
80.252	317.3	2.57	3n	0.1				36-Inch	

FIN 151 09 56.9 -63 24

83.143	350.4	0.92	2	7	+1.0	3	1.0	36	
83.151	346.8	0.89	2	8	+0.8	3	1.6	36	
83.147	346.8	0.90	2n	1.3				36-Inch	

POP 151 09 56.6 +43 59

85.140	85.1	0.40	2	7	-0.1	4	0.2	26	
85.179	86.6	0.49	2	4	0.0	3		26	
85.203	81.8	0.47	2	5	-0.3	2	0.0	26	
85.174	84.5	0.45	3n	0.1				26-Inch	

7592 A 1766 09 57.1 -01 21

82.313	177.4	0.51	1	7	+0.1	3	0.3	26	
82.327	177.0	0.52	1	6	-0.1	3	0.2	26	
82.340	171.0	0.59	2	7	+0.3	3	0.3	26	
83.156	175.5	0.45	2	6	0.0	3	0.0	36	
83.159	175.5	0.46	1	8	+1.0	3	0.4	36	
82.327	175.1	0.54	3n	0.3				26-Inch	
83.158	175.5	0.46	2n	0.2				36-Inch	

7594 A 63 09 57.4 -03 55

82.327	7.8	1.42	1	6	0.0	3	1.8	26	
85.318	11.2	1.58	1	5	-0.2	3	2.2	26	
85.329	8.4	1.45	1	7	0.0	3	2.5	26	
84.325	9.1	1.48	3n	2.2				26-Inch	

No measures for 53 years. Direct motion.

FIN 152 09 57.9 -60 45

83.176	271.4	0.34	2	4	+0.9	2	1.0	60	
83.176	271.4	0.34	1n	1.0				60-Inch	

COU 2086 09 58.2 +38 56

85.140	63.0	0.15	2	8	0.0	4		26	
85.329	63.4	0.12	2	7	-0.1	3		26	
86.252	59.2	0.13	2	7	0.0	3		26	
85.574	61.9	0.13	3n					26-Inch	

7601 A 2482 10 00.0 +16 10

78.064	24.8	0.70	4	5	0.0	3	1.2	26	
79.184	32.1	0.82	4	6	0.0	3	1.4	26	
79.219	31.0	0.73	1	6	-0.1	3	1.0	26	
78.822	29.3	0.75	3n	1.2				26-Inch	

RST 3673 10 00.4 -07 31

83.156	153.3	0.22	2	7	+0.3	3	0.0	36	
83.159	147.3	0.25	2	7	+1.1	3	0.2	36	
83.158	150.3	0.24	2n	0.1				36-Inch	

FIN 154 10 01.3 -58 59

80.224	203.0	1.99	1	8	+0.8	3	2.0	60	
80.232	202.5	2.08	1	4	+0.3	3	3.3	60	
80.228	202.8	2.04	2n	2.6				60-Inch	

RST 460 10 01.4 -58 06

80.257	343.2	0.46	2	5	+0.5	3	0.4	36	
80.257	343.2	0.46	1n	0.4				36-Inch	

7603 STF 1398 10 01.6 +68 43

76.309	118.2	2.59	2	5	0.0	3	3.0	26	
77.149	118.7	2.68	2	5	-0.2	3	3.0	26	
77.169	118.2	2.76	2	6	-0.3	3	2.8	26	
76.876	118.4	2.68	3n	2.9				26-Inch	

7613 STT 210 10 02.6 +46 22

77.149	259.2	1.19	2	5	-0.1	3	0.7	26	
77.169	261.6	1.18	2	6	-0.2	3	0.6	26	
77.185	262.1	1.24	2	4	-0.7	3	0.8	26	
77.188	260.9	1.26	2	5	-0.3	3	0.8	26	
77.173	261.0	1.22	4n	0.7				26-Inch	

7619 A 64 10 02.8 -05 56

80.257	345.8	1.38	1	5	0.0	3	3.2	36
80.257	345.8	1.38	1n	3.2	36-Inch			

DAW 99 10 03.1 -30 16

83.145	236.5	0.20	2	7	+0.9	3		36
83.151	244.9	0.29	2	7	+1.1	3	0.2	36
83.156	230.6	0.21	2	7	+0.5	3		36
83.151	237.3	0.23	3n	0.2	36-Inch			

7629 I 292 10 04.3 -28 23

83.145	346.5	0.32	2	7	+0.9	3	0.2	36
83.151	345.0	0.33	2	8	+1.2	3	0.2	36
83.156	346.0	0.29	2	7	+0.6	3	0.3	36
83.151	345.8	0.31	3n	0.2	36-Inch			

Heintz, 1981: +4.1, -0.02.
Starikova, 1986: +1.4, -0.05.

RST 5343 10 04.3 -34 11

83.167	223.2	1.19	2	5	+0.3	2	0.0	60
83.173	223.8	1.17	2	5	+0.6	2	0.3	60
83.170	223.5	1.18	2n	0.2	60-Inch			

FIN 155 10 04.8 -63 13

80.246	75.2	1.55	2	4	+0.6	3	0.8	36
80.254	76.8	1.71	2	6	+0.3	3	1.6	36
80.257	73.8	1.61	2	4	+0.5	3	0.8	36
80.252	75.3	1.62	3n	1.1	36-Inch			

7635 I 293 10 05.2 -28 12

80.240	320.5	0.21	2	8	+0.3	3	0.5	36
80.243	329.8	0.20	1	7	+0.4	3		36
80.242	325.2	0.20	2n	0.5	36-Inch			

7631 A 2142 10 05.7 +41 03

77.149	300.3	1.05	2	4	-0.1	3	0.8	26
77.169	297.4	0.97	2	6	-0.1	3	0.8	26
77.185	297.7	0.98	2	3	-0.7	3	1.0	26
77.188	299.7	1.07	2	4	-0.1	3	0.8	26
77.173	298.8	1.02	4n	0.9	26-Inch			

7632 STF 1406 10 05.7 +31 05

77.169	223.7	0.92	1	6	0.0	3	0.8	26
77.193	223.6	0.78	3	6	-0.3	3	0.8	26
77.207	218.7	0.85	1	4	+0.1	3	0.7	26
77.278	225.0	0.87	2	6	0.0	3	0.8	26
77.212	223.3	0.86	4n	0.8	26-Inch			

I 173 10 06.2 -47 22

83.148	355.8	0.89	2	6	+0.7	3	1.2	36
83.151	355.9	0.91	2	8	+0.9	3	1.2	36
83.150	355.8	0.90	2n	1.2	36-Inch			

Jones, 1960: +0.6, +0.10.

7644 BU 217 10 06.8 -24 43

83.162	126.1	2.04	2	6	+0.3	3	0.1	36
83.162	126.1	2.04	1n	0.1	36-Inch			

7643 HDO 125 10 06.9 -01 43

77.193	185.7	2.69	1	7	0.0	3	0.0	26
77.278	185.1	2.66	1	6	0.0	3	0.1	26
77.281	185.4	2.47	1	6	0.0	3	0.0	26
83.162	187.5	2.65	1	6	+0.2	3	0.1	36
77.251	185.4	2.61	3n	0.0	26-Inch			
83.162	187.5	2.65	1n	0.1	36-Inch			

FIN 157 10 06.9 -57 00

80.224	231.4	0.85	1	7	+0.9	3	0.8	60
83.143	230.6	0.73	1	5	+1.4	3	1.0	36
83.151	237.5	0.53	2	7	+0.8	3	1.2	36
80.224	231.4	0.85	1n	0.8	60-Inch			
83.147	234.0	0.63	2n	1.1	36-Inch			

7657 A 1988 10 09.0 +25 32

85.140	207.5	0.39	2	7	-0.1	4	0.1	26
85.203	209.2	0.41	2	5	-0.4	3	0.0	26
85.318	212.7	0.45	2	5	-0.2	3		26
85.220	209.8	0.42	3n	0.0	26-Inch			

7662 A 2145 10 09.3 +20 20

76.257	193.2	0.21	3	6	-0.2	4	0.0	26
76.262	200.8	0.16	3	7	0.0	4	0.0	26
76.260	197.0	0.18	2n	0.0	26-Inch			

Finsen, 1977: +3.6, +0.03.
Tokovinen, 1987: +2.8, +0.01.

7667 A 2980 10 10.0 -06 37

82.327	187.1	0.60	2	5	-0.1	3	0.1	26
85.329	186.5	0.55	2	7	-0.1	3	0.0	26
86.252	185.4	0.65	1	6	-0.1	3	0.3	26
84.636	186.3	0.60	3n	0.1	26-Inch			

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I 1523 10 11.5 -39 24

83.173	131.7	0.16	2	5	+0.6	2		60	
83.173	131.7	0.16	1n					60-Inch	

7674 HU 874 10 11.7 +13 21

76.257	284.4	0.18	2	6	0.0	4	0.6	26	
76.262	286.7	0.11	2	7	0.0	4	0.8	26	
77.133	286.8	0.25	2	7	+0.4	3	0.8	26	
77.193	289.9	0.22	3	7	0.0	3	1.0	26	
76.711	287.0	0.19	4n		0.8			26-Inch	

Baize, 1985: +1.7, -0.01.

7677 A 2146 10 12.1 +21 18

80.295	24.5	0.24	2	8	-0.1	3	0.0	26	
82.313	32.7	0.23	2	7	0.0	3	0.0	26	
82.327	32.7	0.26	2	7	0.0	3	0.0	26	
81.645	30.0	0.24	3n		0.0			26-Inch	

Heintz, 1976: -12.2, +0.03.

7675 HO 44 10 12.1 -06 13

82.327	206.0	0.45	2	6	-0.1	3	0.2	26	
83.156	211.5	0.41	2	7	+0.2	3	0.0	36	
83.159	211.0	0.43	2	8	+1.0	3	0.0	36	
85.329	209.0	0.48	2	7	-0.1	3	0.5	26	
86.252	209.2	0.51	1	7	0.0	3	0.3	26	
83.158	211.2	0.42	2n		0.0			36-Inch	
84.636	208.1	0.48	3n		0.3			26-Inch	

7679 STF 1413 10 12.3 +16 21

77.149	94.5	2.14	2	4	0.0	3	0.0	26	
77.169	94.5	2.06	2	6	0.0	3	0.0	26	
77.188	93.0	1.96	2	5	0.0	3	0.0	26	
77.193	94.2	1.95	2	7	0.0	3	0.1	26	
77.175	94.0	2.03	4n		0.0			26-Inch	

7685 STT 213 10 13.2 +27 25

76.262	134.1	0.84	2	7	0.0	4	1.6	26	
76.309	137.4	0.77	1	5	0.0	3	2.8	26	
77.133	130.6	0.94	2	7	+0.5	3	2.8	26	
77.149	136.1	0.78	1	4	0.0	3	2.2	26	
80.295	131.2	1.04	2	7	0.0	3	1.6	26	
82.313	127.7	0.94	2	7	0.0	3	1.8	26	
82.327	125.0	0.89	2	6	0.0	3	1.4	26	
76.713	134.6	0.83	4n		2.0			26-Inch	
81.645	128.0	0.96	3n		1.6			26-Inch	

Heintz, 1962: +5.5, +0.03; +1.2, +0.11.

COU 169 10 14.0 +22 27

85.140	6.2	0.40	2	7	0.0	4	0.0	26	
85.329	4.2	0.49	2	6	0.0	3	0.5	26	
87.273	13.5	0.50	2	7	-0.2	3		26	
85.914	8.0	0.46	3n		0.2			26-Inch	

7694 A 2566 10 14.8 -00 17

79.181	92.6	1.81	2	6	-0.1	3	1.5	26	
79.219	91.8	1.60	2	5	-0.2	3	0.7	26	
79.331	93.5	1.86	2	4	0.0	3	0.8	26	
79.244	92.6	1.76	3n		1.0			26-Inch	

7696 HU 1254 10 15.1 +11 53

77.278	24.7	0.54	1	5	0.0	3	0.2	26	
77.281	26.0	0.65	1	7	0.0	3	0.1	26	
78.064	19.0	0.56	1	5	0.0	3	0.0	26	
77.541	23.2	0.58	3n		0.1			26-Inch	

HU 1596 10 15.3 -58 46

80.254	342.2	1.59	2	7	+0.3	3	1.0	36	
80.254	342.2	1.59	1n		1.0			36-Inch	

HU 1597 10 16.0 -59 54

80.224	328.2	0.25	2	7	+0.9	3	0.2	60	
80.227	329.0	0.20	2	6	+0.3	3	0.2	60	
83.148	350.3	0.17	2	8	+0.7	3		36	
83.151	346.0	0.20	2	7	+1.1	3	0.0	36	
83.159	354.5	0.23	2	7	+1.1	3		36	
80.226	328.6	0.22	2n		0.2			60-Inch	
83.153	350.3	0.20	3n		0.0			36-Inch	

Heintz, 1984: +3.8, -0.02; +5.1, -0.02.
Motion is faster than predicted.

7704 STT 215 10 16.2 +17 44

86.230	182.1	1.42	1	4	-0.5	3	0.4	26	
86.249	182.2	1.41	1	4	+0.1	3	0.3	26	
86.252	181.8	1.24	1	7	+0.1	3	0.1	26	
86.350	180.2	1.29	1	6	-0.1	3	0.4	26	
86.270	181.6	1.34	4n		0.3			26-Inch	

Zaera, 1984: -0.6, -0.08.

7706 I 851 10 16.3 -28 59

80.227	253.4	0.31	2	6	+0.2	3	0.3	60	
80.230	255.2	0.29	2	3	+0.2	3		60	
83.156	251.0	0.33	2	5	+0.5	3		36	
83.162	250.1	0.33	2	6	+0.4	3	0.2	36	
80.228	254.3	0.30	2n		0.3			60-Inch	
83.159	250.6	0.33	2n		0.2			36-Inch	

Heintz, 1969: +4.8, -0.09; +3.0, -0.07.

7711 HLD 101 10 16.8 -20 40

80.240	115.0	1.59	2	8	+0.4	3	3.2	36
80.243	114.6	1.43	2	9	+0.5	3	3.5	36
80.249	118.0	1.62	2	9	0.0	3	3.0	36
80.244	115.9	1.55	3n		3.2			36-Inch

HU 1598 10 18.2 -50 49

83.148	234.0	0.30	2	8	+0.8	3	0.7	36
83.151	238.4	0.32	2	7	+1.1	3	0.4	36
83.159	236.4	0.30	2	6	+1.1	3	0.5	36
83.153	236.3	0.31	3n		0.5			36-Inch

RST 4454 10 18.3 -03 26

80.243	221.0	0.22	2	8	+0.5	3	0.0	36
80.249	220.9	0.20	2	9	+0.1	3	0.1	36
80.251	217.0	0.22	2	8	+0.5	3	0.0	36
80.248	219.6	0.21	3n		0.0			36-Inch

7722 I 206 10 19.1 -23 10

83.162	316.7	0.50	2	6	+0.4	3	0.3	36
83.162	316.7	0.50	1n		0.3			36-Inch

Slow decrease in angle and separation.

HJ 4306 10 19.1 -64 40

83.173	132.7	2.53	2	6	+0.6	2	0.1	60
83.176	132.4	2.52	2	6	+0.6	2	0.1	60
83.174	132.6	2.52	2n		0.1			60-Inch

7721 STF 1423 10 19.2 +20 34

82.346	8.2	0.90	2	5	0.0	3	0.7	26
85.203	5.6	0.74	2	5	-0.3	3	0.4	26
85.318	4.8	0.88	2	5	-0.3	3		26
84.289	6.2	0.84	3n		0.6			26-Inch

Heintz, 1960: -0.6, -0.20.

RST 3688 10 19.3 -12 31

80.249	321.8	0.61	2	9	+0.2	3	2.0	36
80.249	321.8	0.61	1n		2.0			36-Inch

FIN 162 10 19.6 -57 24

83.173	177.8	0.29	2	6	+0.7	2	0.6	60
83.176	174.2	0.36	2	6	+0.7	2	0.2	60
83.184	176.4	0.25	2	7	+0.5	2	0.5	60
83.177	176.1	0.30	3n		0.4			60-Inch

7730 STF 1426 10 20.5 +06 26

77.188	302.9	0.89	2	4	0.0	3	0.5	26
77.193	303.8	0.89	2	7	-0.1	3	0.5	26
77.207	304.4	0.79	2	4	-0.1	3	0.5	26
77.278	304.4	0.87	2	5	0.0	3		26
87.273	305.1	1.02	2	7	-0.2	3	0.3	26
87.342	306.1	1.00	2	7	-0.3	3	0.5	26
87.350	306.7	0.92	2	5	0.0	3	0.5	26
87.358	308.2	0.91	2	5	+0.2	3	0.4	26
77.216	303.9	0.86	4n		0.5			26-Inch
87.331	306.5	0.96	4n		0.4			26-Inch

7738 BU 25 10 21.8 -09 46

77.193	147.8	1.73	1	7	0.0	3	0.6	26
77.278	148.6	1.72	2	4	+0.1	3	0.5	26
77.281	147.7	1.62	1	6	0.0	3	0.8	26
83.154	145.3	1.74	2	5	+0.9	3	0.5	36
77.251	148.0	1.69	3n		0.6			26-Inch
83.154	145.3	1.74	1n		0.5			36-Inch

7744 STT 216 10 22.8 +15 21

80.295	260.1	1.60	2	7	0.0	3	2.4	26
81.341	259.6	1.57	2	7	-0.2	3	2.4	26
81.349	260.0	1.58	2	5	0.0	3	1.6	26
85.140	253.5	1.47	2	8	-0.2	4	2.0	26
85.203	254.3	1.67	2	5	-0.2	3	2.5	26
85.318	255.3	1.64	2	5	-0.3	3	2.8	26
80.995	259.9	1.58	3n		2.1			26-Inch
85.220	255.0	1.59	3n		2.4			26-Inch

Heintz, 1978: +5.2, +0.12; +4.9, +0.03.

7758 STF 1429 10 25.1 +24 38

81.341	183.5	0.63	2	7	-0.1	3	0.2	26
81.349	184.1	0.63	2	5	0.0	3	0.1	26
81.286	181.9	0.63	2	5	-0.2	3	0.0	26
82.313	184.1	0.60	2	8	0.0	3	0.0	26
85.140	180.6	0.53	2	8	-0.1	4	0.3	26
85.203	177.3	0.54	2	5	-0.2	3	0.2	26
85.318	182.3	0.60	2	5	-0.2	3		26
81.822	183.4	0.62	4n		0.1			26-Inch
85.220	180.1	0.56	3n		0.2			26-Inch

Zulevic, 1981: -0.6, +0.02; -0.6, -0.05.

7760 A 2568 10 25.2 +01 00

77.281	353.3	0.35	1	6	0.0	3	0.3	26
80.295	356.5	0.31	1	6	0.0	3	0.2	26
81.341	351.7	0.40	1	5	0.0	3	0.2	26
79.639	353.8	0.35	3n		0.2			26-Inch

7769 A 2570 10 26.0 +02 56

82.313	128.6	0.33	2	7	0.0	3	0.0	26
82.327	127.1	0.30	2	5	-0.1	3	0.0	26
82.340	124.8	0.33	2	7	0.0	4	0.0	26
82.346	128.4	0.36	2	5	0.0	3	0.2	26
87.273	305.9	0.28	2	7	-0.2	3	0.0	26
87.342	306.2	0.36	2	7	-0.2	3	0.2	26
87.350	305.5	0.35	2	5	0.0	3	0.0	26
87.358	300.3	0.28	2	5	0.0	3	0.0	26
82.332	127.2	0.33	4n		0.0		26-Inch	
87.331	304.5	0.32	4n		0.0		26-Inch	

Quadrant uncertain.

7775 STT 217 10 26.9 +17 13

78.064	144.3	0.35	1	6	0.0	3	0.4	26
78.943	135.9	0.33	2	4	-0.1	3	0.3	26
79.184	138.4	0.31	2	7	-0.2	3	0.3	26
79.219	140.0	0.30	2	6	-0.4	3	0.4	26
85.140	143.5	0.45	2	8	-0.1	4	0.4	26
85.329	144.5	0.46	2	7	-0.1	3	0.5	26
85.351	142.2	0.49	2	4	-0.1	3	0.5	26
85.354	144.0	0.45	2	7	0.0	3	0.3	26
78.852	139.6	0.32	4n		0.4		26-Inch	
85.294	143.6	0.46	4n		0.4		26-Inch	

Heintz, 1975: -2.0, -0.03; -0.4, -0.02.

B 1678 10 26.9 -60 40

80.227	236.7	0.27	2	5	+0.3	3	0.2	60
80.232	238.0	0.19	2	6	+0.6	3		60
80.230	237.4	0.23	2n		0.2		60-Inch	

7779 STT 218 10 27.5 +03 33

77.149	115.6	0.47	2	4	-0.1	3	1.5	26
77.169	116.2	0.45	1	6	-0.2	3	1.5	26
77.193	112.6	0.43	2	6	0.0	3	1.5	26
77.281	119.2	0.49	3	5	+0.1	3	1.6	26
77.198	115.9	0.46	4n		1.5		26-Inch	

FIN 164 10 27.8 -55 12

80.227	8.4	1.09	1	5	+0.4	3	1.5	60
80.232	6.4	1.24	1	6	+0.7	3	2.8	60
80.230	7.4	1.16	2n		2.2		60-Inch	

7780 HU 879 10 27.9 +36 42

79.181	230.1	0.51	2	6	-0.1	3	1.6	26
79.219	231.8	0.49	2	6	-0.3	3	2.2	26
79.200	231.0	0.50	2n		1.9		26-Inch	

Heintz, 1981: +4.3, -0.01.

7785 A 1993 10 28.8 +45 57

79.219	122.8	0.26	2	6	-0.3	3	0.8	26
81.341	123.6	0.37	2	7	0.0	3	0.7	26
81.349	120.4	0.34	2	5	+0.1	3	0.8	26
80.636	122.3	0.32	3n		0.8		26-Inch	

7792 STT 220 10 29.2 +10 09

77.169	83.4	0.81	2	6	-0.1	3	1.4	26
77.193	85.8	0.76	2	7	0.0	3	1.6	26
77.281	82.6	0.77	2	7	+0.2	3	1.6	26
77.214	83.9	0.78	3n		1.5		26-Inch	

7800 STF 1440 10 29.9 -03 55

87.273	345.3	15.24	1	8	0.0	3	1.0	26
87.342	344.8	15.28	1	7	-0.1	3	2.0	26
87.308	345.0	15.26	2n		1.5		26-Inch	

7802 STF 1439 10 30.1 +20 48

86.350	86.3	1.39	2	6	-0.1	3	0.5	26
87.273	84.6	1.43	2	8	-0.1	3	0.4	26
87.342	85.2	1.36	2	7	-0.2	3	0.4	26
87.350	86.3	1.41	2	5	0.0	3	0.4	26
87.078	85.6	1.40	4n		0.4		26-Inch	

RST 3701 10 30.9 -36 16

83.145	157.7	0.18	2	8	+0.8	3	0.0	36
83.159	161.5	0.17	2	7	+1.1	3		36
83.162	147.2	0.19	2	5	+0.5	3		36
83.155	155.5	0.18	3n		0.0		36-Inch	

7811 A 1350 10 31.4 -02 27

82.313	319.4	2.71	2	8	+0.1	3	0.5	26
82.327	319.5	2.72	2	5	-0.1	3	0.4	26
82.340	320.3	2.75	2	7	0.0	4	0.3	26
82.327	319.7	2.73	3n		0.4		26-Inch	

7814 KU 35 10 32.2 +47 23

77.169	13.5	1.28	2	6	-0.1	3	0.5	26
78.064	12.6	1.10	2	5	-0.1	3	0.6	26
78.943	16.7	1.32	1	5	-0.1	3	0.5	26
78.059	14.3	1.23	3n		0.5		26-Inch	

7819 A 1994 10 32.4 +46 31

78.943	89.9	1.38	2	4	0.0	3	2.2	26
79.219	87.6	1.57	2	6	-0.2	3	2.6	26
81.341	85.6	1.70	2	6	+0.1	3	2.0	26
79.834	87.7	1.55	3n		2.3		26-Inch	

RST 496 10 32.7 -52 02

83.173	144.0	0.54	2 7 +0.6 2 0.0 60
83.176	143.2	0.59	2 5 +0.6 2 0.2 60
83.174	143.6	0.56	2n 0.1 60-Inch

Angular decrease.

FIN 26 10 32.9 -39 56

83.143	170.5	0.20	2 7 +1.0 3 36
83.145	168.3	0.28	2 7 +0.8 3 36
83.148	169.6	0.24	2 7 +0.7 3 0.4 36
83.145	169.5	0.24	3n 0.4 36-Inch

FIN 27 10 33.2 -39 47

83.143	237.5	4.29	2 5 +1.1 3 4.0 36
83.145	243.6	4.24	2 7 +0.9 3 3.8 36
83.144	240.6	4.26	2n 3.9 36-Inch

The large change indicates that this pair may be optical.

B 1164 10 34.4 -46 29

80.249	80.8	0.66	2 7 +0.5 3 1.0 36
83.145	79.5	0.76	2 6 +1.0 3 1.0 36
83.148	83.2	0.58	2 6 +0.8 3 0.8 36
83.173	85.7	0.63	2 6 +0.7 2 1.0 60
82.181	81.2	0.67	3n 0.9 36-Inch
83.173	85.7	0.63	1n 1.0 60-Inch

7840 A 2154 10 35.8 +31 47

79.219	118.1	0.43	2 6 -0.1 3 0.2 26
80.295	113.8	0.59	2 7 0.0 3 0.3 26
81.341	112.0	0.67	2 7 0.0 3 0.2 26
80.285	114.6	0.56	3n 0.2 26-Inch

7842 A 2571 BC 10 35.8 +02 33

76.262	139.4	0.29	2 6 +0.1 4 0.1 26
77.193	140.3	0.35	3 7 +0.1 3 0.4 26
77.281	145.0	0.32	1 6 +0.1 3 0.3 26
85.140	159.2	0.30	2 7 -0.1 4 0.5 26
85.329	152.7	0.35	2 5 -0.2 3 0.3 26
86.252	152.2	0.36	2 6 -0.1 3 0.4 26
76.912	141.6	0.32	3n 0.3 26-Inch
85.574	154.7	0.34	3n 0.4 26-Inch

7846 BU 411 10 36.1 -26 40

80.240	319.0	1.31	2 8 +0.2 3 1.0 36
80.243	321.0	1.11	2 9 +0.3 3 0.8 36
80.246	321.0	1.05	2 5 +0.2 3 1.0 36
83.154	317.3	1.24	2 5 +0.8 3 1.2 36
83.162	323.1	1.20	2 6 +0.6 3 0.7 36
80.243	320.3	1.15	3n 0.9 36-Inch
83.158	320.2	1.22	2n 1.0 36-Inch

Newburg, 1966: -1.8, +0.04; -0.5, +0.05.

7844 A 2055 10 36.5 +44 30

76.309	160.4	0.32	2 5 0.0 3 0.1 26
77.149	163.4	0.30	2 4 -0.1 3 0.0 26
77.169	158.2	0.31	2 6 -0.1 3 0.0 26
77.193	154.9	0.31	2 7 0.0 3 0.0 26
76.955	159.2	0.31	4n 0.0 26-Inch

7852 I 857 10 36.6 -28 46

83.162	270.1	0.29	2 5 +0.7 3 36
83.176	269.5	0.27	2 6 +1.0 2 0.5 60
83.184	269.2	0.23	2 7 +0.4 2 0.0 60
83.162	270.1	0.29	1n 36-Inch
83.180	269.4	0.25	2n 0.2 60-Inch

7860 STF 1454 10 38.1 +26 37

78.943	339.0	1.92	2 4 0.0 3 2.6 26
79.184	337.7	1.90	2 6 -0.2 3 2.5 26
79.219	338.2	1.81	2 6 -0.1 3 2.0 26
79.115	338.3	1.88	3n 2.4 26-Inch

7868 J 79 10 38.9 +07 22

82.327	135.5	1.64	2 8 -0.1 3 0.8 26
82.346	136.3	1.61	2 5 -0.1 3 2.0 26
85.203	135.0	1.64	2 5 -0.3 2 0.9 26
83.292	135.6	1.63	3n 1.2 26-Inch

7877 J 1351 10 39.1 +07 26

75.249	119.1	5.03	2 6 -0.1 3 1.0 26
85.203	113.2	5.13	2 5 -0.2 3 0.8 26
85.329	117.0	5.15	2 6 -0.2 3 1.5 26
81.927	116.4	5.10	3n 1.1 26-Inch

7866 A 66 10 39 1 -05 53

79.219	136.2	0.67	2 4 0.0 3 0.3 26
80.295	134.8	0.71	2 6 +0.2 3 0.5 26
81.341	141.0	0.66	2 5 +0.1 3 0.5 26
80.285	137.3	0.68	3n 0.4 26-Inch

7871 STT 224 10 39.7 +08 51

80.295	179.8	0.46	1 7 +0.1 3 0.8 26
81.341	177.6	0.54	2 5 +0.2 3 1.0 26
81.349	180.4	0.54	2 5 0.0 3 1.4 26
82.313	182.5	0.46	2 8 0.0 3 1.0 26
85.140	172.9	0.44	1 8 0.0 4 1.5 26
85.329	163.5	0.40	2 6 -0.1 3 2.0 26
85.354	169.8	0.47	2 7 -0.1 3 1.3 26
81.324	180.1	0.50	4n 1.0 26-Inch
85.274	168.7	0.44	3n 1.6 26-Inch

Ekenberg, 1945: +10.3, -0.03; +3.5, -0.10.
Heintz, 1984: + 3.6, -0.05; -3.6, -0.12.

	FIN 40			10 40.6	-53 41				
83.151	237.4	0.25	2	7	+1.1	3	0.2	36	
83.159	234.8	0.23	2	7	+1.1	3	0.0	36	
83.155	236.1	0.24	2n		0.1			36-Inch	

A quadrant has been described.

7884	HDO 128			10 40.9	-13 05				
82.313	6.6	1.79	1	7	+0.1	3	0.7	26	
82.327	6.3	1.84	1	5	0.0	3	0.7	26	
82.340	5.2	1.86	1	7	-0.2	3	0.8	26	
83.154	10.7	1.83	2	5	+0.8	3	1.4	36	
83.159	10.6	1.85	2	8	+1.2	3	1.6	36	
82.327	6.0	1.83	3n		0.7			26-Inch	
83.156	10.6	1.84	2n		1.5			36-Inch	

7888	STT 227			10 41.7	+10 45				
78.943	1.7	0.89	1	4	0.0	3	0.5	26	
79.184	357.9	0.80	1	7	-0.2	3	0.3	26	
79.219	0.0	0.81	1	4	+0.1	3	0.2	26	
85.140	359.2	0.80	1	8	+0.2	4	0.6	26	
85.203	358.8	0.80	2	5	-0.2	3	0.4	26	
85.318	0.7	0.75	2	5	-0.4	3		26	
79.115	359.9	0.83	3n		0.3			26-Inch	
85.220	359.6	0.78	3n		0.5			26-Inch	

	JSP 418			10 42.4	-36 12				
83.167	278.7	0.15	2	5	+0.6	2	0.0	60	
83.173	282.2	0.16	2	7	+0.7	2	0.0	60	
83.184	283.4	0.16	2	7	+0.4	2		60	
83.175	281.5	0.16	3n		0.0			60-Inch	

Rapid direct motion.

7896	A 2768			10 42.7	+03 35				
85.140	316.7	0.21	2	8	0.0	4	1.2	26	
85.354	312.7	0.24	3	7	-0.1	3	1.2	26	
86.252	315.4	0.24	2	6	-0.1	3	1.2	26	
85.582	314.9	0.23	3n		1.2			26-Inch	

Baize, 1984: +3.5, -0.01.

	FIN 41			10 43.1	-54 14				
83.143	61.8	0.69	2	5	+1.2	3	0.6	36	
83.145	57.5	0.70	2	6	+1.0	3	0.7	36	
83.144	59.6	0.70	2n		0.6			36-Inch	

7900	A 2769			10 43.2	+04 40				
87.273	218.9	0.47	2	7	-0.1	3	0.8	26	
87.342	217.2	0.41	2	6	-0.2	3	0.8	26	
87.350	215.4	0.48	2	5	-0.1	3	1.0	26	
87.322	217.2	0.45	3n		0.9			26-Inch	

7911	A 2771			10 44.6	+05 30				
87.273	290.6	0.25	2	7	-0.1	3		26	
87.342	296.7	0.20	2	7	-0.2	3		26	
87.350	288.2	0.26	2	5	0.0	3		26	
87.322	291.8	0.24	3n					26-Inch	

	B 794			10 44.6	-38 09				
83.167	177.5	0.18	2	5	+0.7	2	0.0	60	
83.173	177.2	0.24	2	7	+0.7	2	0.2	60	
83.184	171.0	0.17	2	6	+0.4	2		60	
83.175	175.2	0.20	3n		0.1			60-Inch	

	A 3082			10 46.3	-04 59				
83.154	70.6	1.41	2	5	+0.9	3	0.1	36	
83.159	71.7	1.46	2	7	+1.3	3	0.2	36	
83.156	71.2	1.44	2n		0.2			36-Inch	

7922	STF 1470			10 46.3	-05 46				
76.344	190.9	1.36	1	5	0.0	3	0.2	26	
77.133	190.8	1.50	1	7	+0.1	3	0.3	26	
77.169	189.5	1.42	1	5	-0.3	3	0.3	26	
77.193	191.2	1.29	1	6	0.0	3	0.2	26	
83.154	192.4	1.43	2	5	+0.8	3	0.1	36	
83.159	193.9	1.42	2	7	+1.2	3	0.0	36	
76.960	190.6	1.39	4n		0.2			26-Inch	
83.156	193.2	1.42	2n		0.0			36-Inch	

7926	STT 228			10 47.3	+22 34				
76.344	174.9	0.62	1	5	+0.1	3	0.6	26	
77.133	177.8	0.63	1	6	+0.1	3	0.8	26	
77.149	180.3	0.63	1	4	0.0	3	0.7	26	
77.169	176.6	0.56	1	5	0.0	3	0.6	26	
76.949	177.4	0.61	4n		0.7			26-Inch	

7929	STT 229			10 48.1	+41 06				
86.350	280.0	0.78	2	6	-0.3	3	0.3	26	
87.273	278.6	0.69	2	7	0.0	3	0.2	26	
87.342	277.7	0.68	2	6	-0.1	3	0.2	26	
87.350	279.0	0.75	2	5	-0.2	3	0.2	26	
87.079	278.8	0.72	4n		0.2			26-Inch	

7933	A 2572			10 48.8	+01 24				
82.327	120.2	0.63	2	5	-0.1	3	0.5	26	
82.346	117.3	0.61	2	6	-0.1	3	0.5	26	
82.360	121.9	0.73	2	7	0.0	3	0.3	26	
82.344	119.8	0.66	3n		0.4			26-Inch	

RST 3714 10 50.3 -15 00

80.243	237.9	1.53	2	8	+0.2	3	1.8	36
80.249	237.5	1.64	2	9	-0.2	3	3.2	36
80.246	237.7	1.58	2n	2.5			36-Inch	

RST 3717 10 50.4 -63 59

80.224	37.4	0.21	2	7	+0.5	3	0.2	60
80.227	37.6	0.21	2	5	+0.2	3		60
80.226	37.5	0.21	2n	0.2			60-Inch	

FIN 170 10 50.8 -59 20

80.224	160.4	0.29	2	7	+0.6	3	0.1	60
80.227	164.6	0.27	2	4	+0.3	3	0.0	60
83.173	155.0	0.23	2	6	+0.7	2	0.2	60
83.184	155.2	0.23	2	6	0.0	2		60
80.226	162.5	0.28	2n	0.0			60-Inch	
83.178	155.2	0.23	2n	0.2			60-Inch	

Considerable retrograde motion, but few measures.

7944 A 2372 10 51.0 +16 03

82.313	81.2	0.25	2	7	0.0	3	1.2	26
82.327	78.3	0.34	2	5	0.0	3	1.5	26
82.340	91.3	0.37	2	7	-0.3	4	1.2	26
82.343	85.2	0.30	2	5	-0.3	3	1.3	26
82.346	79.1	0.32	2	6	-0.1	3	1.4	26
82.334	83.0	0.32	5n	1.3			26-Inch	

Measures of this pair are discordant, probably due to the magnitude difference.

RST 3716 10 51.5 -10 26

80.249	255.0	0.21	2	9	0.0	3	0.0	36
80.249	255.0	0.21	1n	0.0			36-Inch	

D 14 10 51.8 -07 11

77.169	195.3	6.09	1	5	-0.2	3	2.5	26
77.281	195.5	5.99	1	6	0.0	3	2.2	26
77.225	195.4	6.04	2n	2.4			26-Inch	

I 418 10 53.0 -63 05

80.227	201.3	2.26	1	4	+0.4	3	0.2	60
80.232	202.6	2.25	1	6	+0.8	3	0.3	60
80.230	202.0	2.26	2n	0.2			60-Inch	

B 1173 10 53.2 -23 35

80.249	313.9	1.01	2	9	+0.1	3	0.2	36
80.251	315.6	0.97	2	6	0.0	3	0.4	36
80.250	314.8	0.99	2n	0.3			36-Inch	

I 1206 10 55.4 -35 30

83.167	308.8	0.13	2	5	+0.6	2		60
83.170	312.4	0.15	2	6	+0.6	2		60
83.184	304.9	0.14	2	6	+0.4	2		60
83.174	308.7	0.14	3n				60-Inch	

No measures in 36 years. In the interim, the angle has increased by at least 135 degrees.

7982 BU 1076 10 55.7 +00 44

79.181	67.9	1.21	2	6	-0.3	3	2.8	26
79.219	73.7	1.12	2	5	0.0	3	3.0	26
80.095	71.5	1.07	2	5	-0.3	3	3.0	26
80.295	63.4	1.09	2	6	0.0	3	3.0	26
79.698	69.1	1.12	4n	3.0			26-Inch	

Morel, 1970: +3.8, +0.10.

I 306 10 55.8 -47 34

80.249	162.4	1.39	2	7	+0.3	3	1.2	36
80.249	162.4	1.39	1n	1.2			36-Inch	

FIN 173 10 56.5 -54 52

80.224	42.5	0.39	1	7	+0.6	3	0.2	60
80.232	41.7	0.33	2	6	+0.4	3	0.3	60
80.228	42.1	0.36	2n	0.2			60-Inch	

POP 73 10 56.6 +33 19

87.273	205.2	0.77	2	8	0.0	3		26
87.342	202.5	0.67	2	5	-0.2	3	0.0	26
87.350	204.2	0.84	2	5	-0.2	3		26
87.322	204.0	0.76	3n	0.0			26-Inch	

7986 A 68 10 56.9 -02 56

82.313	107.9	0.31	2	6	0.0	3	0.1	26
82.327	112.5	0.35	2	5	0.0	3	0.0	26
82.340	122.6	0.30	2	5	-0.5	3		26
82.346	112.5	0.36	2	5	-0.1	3	0.1	26
82.332	113.9	0.33	4n	0.1			26-Inch	

	B 1174			10 57.6	-46 26				
80.240	72.8	0.69	2	8	+0.4	3	0.5	36	
80.243	74.5	0.51	2	7	+0.2	3	0.4	36	
80.246	74.0	0.52	2	5	+0.1	3	0.4	36	
80.243	73.8	0.57	3n	0.4		36-Inch			
	B 1175			10 58.2	-35 40				
80.240	246.9	0.75	2	8	+0.2	3	0.4	36	
80.243	247.7	0.64	2	8	+0.3	3	0.6	36	
80.246	247.2	0.53	2	4	+0.3	3	0.5	36	
80.243	247.3	0.64	3n	0.5		36-Inch			
7997	A 2375			10 58.5	+17 12				
76.342	238.8	0.20	2	8	0.0	3	0.0	26	
77.281	235.4	0.15	2	6	0.0	3	0.0	26	
76.812	237.1	0.18	2n	0.0		26-Inch			
Couteau, 1973: +15.1, -0.04.									
	I 211			10 59.2	-33 44				
80.240	213.5	1.87	2	9	+0.1	3	2.8	36	
80.243	215.0	1.97	2	8	+0.4	3	2.5	36	
80.242	214.2	1.92	2n	2.6		36-Inch			
8000	A 133			10 59.4	-07 20				
82.313	41.8	0.25	2	7	0.0	3		26	
82.340	58.4	0.25	2	6	-0.3	4	0.0	26	
82.346	49.7	0.30	2	5	0.0	3		26	
82.360	48.4	0.26	2	7	0.0	3		26	
82.340	49.6	0.26	4n	0.0		26-Inch			
8008	A 134			11 00.1	-06 57				
76.344	330.8	1.73	3	5	0.0	3	0.1	26	
77.169	329.8	1.90	3	5	-0.2	3	0.1	26	
77.281	331.0	1.80	1	5	0.0	3	0.2	26	
76.931	330.5	1.81	3n	0.1		26-Inch			
	SEE 126			11 00.2	-43 23				
80.243	166.5	0.90	2	8	+0.5	3	0.0	36	
80.246	167.4	0.89	2	5	+0.2	3	0.5	36	
80.249	166.0	0.97	2	9	+0.5	3	0.1	36	
80.246	166.6	0.92	3n	0.2		36-Inch			
	I 864			11 00.4	-40 15				
80.227	356.2	1.04	2	4	+0.4	3		60	
80.232	355.5	0.99	2	6	+1.0	3	0.1	60	
80.230	355.8	1.02	2n	0.1		60-Inch			
	COU 960			11 00.9	+29 13				
87.273	102.3	0.17	2	8	0.0	3		26	
87.342	104.3	0.18	2	5	-0.1	3		26	
87.350	106.0	0.19	2	5	0.0	3		26	
87.322	104.2	0.18	3n			26-Inch			
	RST 3723			11 01.6	-14 12				
80.251	89.4	0.59	2	6	0.0	3	0.3	36	
80.254	93.4	0.57	2	5	+0.2	3	0.5	36	
80.252	91.4	0.58	2n	0.4		36-Inch			
8025	H 177			11 02.1	-15 41				
80.240	23.0	3.02	2	9	0.0	3	0.3	36	
80.246	24.0	3.00	1	5	0.0	3	0.4	36	
80.251	21.8	2.95	2	7	+0.1	3	0.2	36	
80.246	22.9	2.99	3n	0.3		36-Inch			
8032	A 1590			11 03.5	+54 32				
85.203	343.8	1.25	2	5	-0.5	3	0.4	26	
85.318	342.2	1.32	2	5	-0.5	3	0.5	26	
85.329	342.8	1.36	2	6	-0.2	3	0.6	26	
85.351	342.5	1.24	2	5	-0.3	3	0.8	26	
85.300	342.8	1.29	4n	0.6		26-Inch			
Heintz, 1963: +2.8, +0.07.									
Baize, 1985: -0.6, -0.10.									
8035	BU 1077			11 03.8	+61 45				
79.181	323.3	0.79	3	6	-0.2	3	3.0	26	
79.372	320.3	0.83	3	5	+0.2	3	3.0	26	
80.295	313.4	0.80	3	7	0.0	3	3.0	26	
79.616	319.2	0.81	3n	3.0		26-Inch			
Heintz, 1963: +1.0, -0.03.									
8043	STF 1504			11 04.0	+03 39				
86.230	299.3	1.24	2	4	0.0	3		26	
86.249	299.4	1.29	2	4	+0.2	3		26	
86.252	300.6	1.37	2	6	-0.3	3	0.2	26	
86.350	299.6	1.21	2	4	-0.2	3	0.5	26	
86.270	299.7	1.28	4n	0.4		26-Inch			
8049	A 676 BC			11 04.7	-04 13				
80.224	302.8	0.24	2	7	+0.7	3	0.2	60	
80.232	309.4	0.18	2	7	+0.4	3	0.2	60	
80.228	306.1	0.21	2n	0.2		60-Inch			
Eggen, 1967: + 8.9, +0.02.									
Heintz, 1985: +16.3, +0.01.									
An orbit by Docobo, Costa gives impossible residuals.									

FIN 176 11 04.7 -58 42

80.249	11.6	0.42	1 8 +0.4 3 0.8 36
80.249	11.6	0.42	1n 0.8 36-Inch

FIN 47 11 05.3 -27 17

80.224	42.0	0.18	2 7 +0.8 3 60
80.232	45.6	0.17	2 7 +0.5 3 0.0 60
80.228	43.8	0.18	2n 0.0 60-Inch

van den Bos, 1957: +1.6, +0.03. The orbit can only be improved by interferometric observations.

805. A 69 11 05.5 -06 26

76.344	68.9	1.49	2 4 0.0 3 0.8 26
77.133	68.8	1.47	2 6 0.0 3 1.0 26
77.169	69.4	1.48	2 5 -0.1 3 0.8 26
80.251	70.6	1.45	2 7 +0.2 3 1.0 36
80.254	71.0	1.52	2 4 +0.2 3 1.5 36
76.882	69.0	1.48	3n 0.9 26-Inch
80.252	70.8	1.48	2n 1.2 36-Inch

FIN 177 11 05.8 -59 19

80.249	280.6	2.90	2 7 +0.5 3 2.8 36
80.249	280.6	2.90	1n 2.8 36-Inch

8056 A 1775 11 06.5 +26 53

82.313	64.7	0.24	2 7 +0.1 3 0.0 26
82.327	76.7	0.24	2 6 -0.1 3 26
82.346	74.6	0.25	2 5 0.0 3 0.5 26
82.360	64.9	0.24	2 7 -0.1 3 0.0 26
82.336	70.2	0.24	4n 0.1 26-Inch

HJ 4409 11 07.3 -42 38

80.246	261.8	1.36	4 4 +0.3 3 2.5 36
80.249	261.9	1.28	2 9 +0.7 3 2.5 36
80.248	261.8	1.32	2n 2.5 36-Inch

Decrease in angle and separation.

I 870 11 07.8 -41 07

80.246	76.7	1.70	2 5 +0.4 3 0.2 36
80.249	76.8	1.72	2 9 +0.7 3 0.2 36
80.248	76.8	1.71	2n 0.2 36-Inch

RST 528 11 08.5 -50 30

83.173	354.2	0.36	2 5 +0.6 2 1.0 60
83.184	348.7	0.31	2 6 +0.3 2 0.7 60
83.178	351.4	0.34	2n 0.8 60-Inch

No measures in 34 years. Angular decrease.

8075 ES 1642 11 09.5 +38 05

76.344	43.8	1.23	2 5 +0.1 3 0.2 26
77.149	42.8	1.18	2 5 -0.3 3 0.2 26
77.169	42.9	1.25	2 6 -0.1 3 0.2 26
76.887	43.2	1.22	3n 0.2 26-Inch

COU 176 11 10.0 +21 37

82.346	84.6	0.73	2 5 0.0 3 0.6 26
82.360	82.9	0.71	2 7 0.0 3 0.5 26
85.203	84.0	0.72	2 5 -0.5 3 0.8 26
83.303	83.8	0.72	3n 0.6 26-Inch

HEI 60 11 10.0 +14 42

85.354	272.2	0.36	2 7 -0.2 3 0.4 26
86.252	265.3	0.31	2 5 -0.3 3 0.4 26
87.273	267.5	0.32	2 8 0.0 3 0.4 26
86.293	268.3	0.33	3n 0.4 26-Inch

8082 HJ 2562 11 10.7 +31 09

82.346	264.4	1.13	2 6 0.0 3 1.2 26
82.360	265.9	1.12	2 8 0.0 3 0.6 26
85.203	263.8	1.00	2 5 -0.4 3 1.4 26
83.303	264.7	1.08	3n 1.1 26-Inch

RST 5352 11 11.8 -34 49

83.167	335.7	0.27	2 5 +0.5 2 0.3 60
83.170	331.6	0.29	2 6 +0.5 2 0.3 60
83.184	333.7	0.26	2 6 +0.4 2 0.2 60
83.174	333.7	0.27	3n 0.3 60-Inch

8086 BU 220 11 12.5 -18 30

80.224	333.4	0.22	2 5 +0.8 3 0.6 60
80.232	332.5	0.23	2 7 +0.5 3 0.4 60
80.228	333.0	0.22	2n 0.5 60-Inch

Costa, Docobo, 1983: +3.4, 0.00.

8092 A 1353 11 13.6 +55 25

78.064	232.7	0.27	2	5	0.0	3	0.7	26
79.184	231.9	0.28	2	7	-0.2	3	0.5	26
79.372	229.5	0.36	2	6	0.0	3	0.6	26
85.354	228.4	0.38	2	7	-0.2	3	0.6	26
87.342	220.8	0.45	2	5	-0.3	3	0.8	26
87.350	217.0	0.43	2	5	-0.2	3	0.8	26
87.372	222.7	0.39	2	6	-0.2	3	0.8	26
78.873	231.4	0.30	3n		0.6			26-Inch
86.854	222.2	0.41	4n		0.8			26-Inch

Heintz, 1981: +0.7, +0.01; +0.7, +0.02.
Baize, 1981: +2.5, 0.00; +3.8, +0.02.
Starikova, 1985: -0.5, -0.02; -3.3, -0.06.

8094 STF 1517 11 13.7 +20 08

85.351	144.8	0.45	2	5	-0.2	3	0.2	26
85.354	148.1	0.46	2	7	-0.2	3	0.2	26
85.384	149.7	0.40	2	6	+0.3	3	0.2	26
86.252	145.4	0.51	2	6	-0.2	3	0.2	26
85.585	147.0	0.46	4n		0.2			26-Inch

KUI 56 11 14.0 +08 04

86.252	249.4	22.18	2	5	-0.1	3	5.5	26
87.342	249.2	22.29	2	5	-0.2	3	5.0	26
86.797	249.3	22.24	2n		5.2			26-Inch

DON 466 11 14.8 -23 06

83.154	216.3	2.83	2	5	+1.2	3	3.3	36
83.159	220.3	2.93	2	7	+1.0	3	4.0	36
83.156	218.3	2.88	2n		3.6			36-Inch

8103 STF 1519 11 15.6 +59 46

76.344	288.5	1.53	2	5	0.0	3	1.2	26
77.108	289.2	1.40	2	5	0.0	3	1.0	26
77.169	289.2	1.41	2	6	-0.2	3	0.7	26
76.874	289.0	1.45	3n		1.0			26-Inch

8109 A 2157 11 16.2 +31 36

76.342	358.0	1.25	3	8	-0.1	3	3.3	26
80.295	6.1	1.24	1	6	+0.2	3	3.4	26
82.313	3.1	1.34	2	7	0.0	3	3.0	26
79.650	2.4	1.28	3n		3.2			26-Inch

FIN 180 11 16.4 -59 35

83.145	20.9	0.59	2	6	+0.8	3	0.2	36
83.148	19.6	0.60	2	6	+0.2	3		36
83.146	20.2	0.60	2n		0.2			36-Inch

HJ 4423 11 16.5 -45 53

80.227	275.6	2.58	2	4	+0.5	3	0.1	60
80.232	276.9	2.67	2	6	+0.8	3	0.2	60
80.230	276.2	2.62	2n		0.2			60-Inch

8114 A 5 11 16.8 -05 09

80.251	312.2	0.33	2	7	+0.1	3	0.2	36
80.251	312.2	0.33	1n		0.2			36-Inch

8119 STF 1523 11 18.2 +31 33

77.108	109.2	2.93	2	5	-0.3	3	0.6	26
77.133	109.4	3.04	2	7	0.0	3	0.5	26
77.149	109.9	3.09	2	4	-0.5	3	0.5	26
77.169	109.7	3.05	2	6	0.0	3	0.6	26
82.346	97.2	2.72	2	6	-1.2	3	0.5	26
82.357	97.9	2.58	2	5	-0.9	3	0.5	26
82.360	97.6	2.52	2	7	-0.7	3	0.4	26
85.203	88.3	2.44	2	6	-0.4	3	0.5	26
85.318	90.0	2.22	2	5	-0.6	3	0.4	26
85.329	89.3	2.28	2	5	-0.2	3	0.3	26
85.351	90.1	2.35	2	5	-0.7	3	0.3	26
87.350	81.9	1.91	2	5	-0.2	3	0.5	26
87.358	80.7	1.67	2	6	-1.1	3	0.5	26
87.372	81.2	1.71	2	6	-0.4	3	0.4	26
77.140	109.6	3.03	4n		0.5			26-Inch
82.354	97.6	2.61	3n		0.5			26-Inch
85.300	89.4	2.32	4n		0.4			26-Inch
87.360	81.3	1.76	3n		0.5			26-Inch

Heintz, 1967: -1.1, -0.03; -1.2, -0.18;
-0.4, +0.05; +0.8, -0.10.

8120 A 2379 BC 11 18.2 +16 38

81.341	276.2	0.36	2	5	-0.2	3		26
82.327	279.8	0.38	2	5	-0.1	3	0.5	26
82.346	288.9	0.33	2	6	0.0	3	0.3	26
82.360	284.0	0.31	2	8	0.0	3	0.2	26
82.094	282.2	0.34	4n		0.3			26-Inch

8128 STF 1527 11 19.0 +14 16

85.252	39.7	1.18	2	5	-0.2	3	1.4	26
87.273	39.9	1.05	2	8	0.0	3	0.9	26
87.342	40.1	1.18	2	5	-0.2	3	0.6	26
87.350	40.5	1.12	2	5	-0.2	3	0.6	26
86.804	40.0	1.13	4n		0.9			26-Inch

Hopmann, 1960: +6.3, -0.18.

I 879 11 21.0 -54 30

80.243	123.1	0.30	2	7	+0.4	3	0.3	36
80.249	116.0	0.26	2	9	+0.6	3	0.5	36
80.244	119.6	0.28	2n		0.4			36-Inch

Newburg, 1967: +6.8, +0.03.

	VOU 25		11 21.9 -34 15			
83.167	237.4	0.39	2 5 +0.5	2	0.2	60
83.170	243.4	0.39	2 6 +0.4	2	0.3	60
83.176	238.2	0.37	2 5 +0.3	2	0.3	60
83.171	239.7	0.38	3n 0.3		60-Inch	

This is the only measure.

	RST 2745		11 23.5 -31 35			
83.170	14.2	0.31	2 6 +0.5	2	0.2	60
83.184	11.7	0.23	2 4 +0.3	2		60
83.177	13.0	0.27	2n 0.2		60-Inch	

8148	STF 1536		11 23.9 +10 32			
77.108	154.6	1.18	1 5 -0.1	3	2.2	26
77.133	157.4	1.18	1 6 +0.2	3	2.0	26
77.149	157.9	1.26	1 4 -0.4	3	3.0	26
77.169	157.6	1.07	1 5 0.0	3	2.5	26
79.181	153.2	1.23	2 5 -0.1	3	2.0	26
79.334	149.3	1.32	3 4 +0.2	3	2.5	26
79.372	149.2	1.24	4 5 +0.1	3	2.5	26
82.346	138.6	1.31	2 6 0.0	3	2.6	26
82.357	135.8	1.37	2 5 -0.7	3	2.5	26
82.360	139.6	1.28	2 6 -0.7	3	2.5	26
85.203	133.6	1.32	2 5 -0.4	3		26
85.329	129.3	1.47	2 4 0.0	3	2.5	26
85.351	132.3	1.22	2 6 -0.5	3	2.4	26
85.354	129.5	1.43	2 7 -0.1	3	2.8	26
87.273	127.1	1.34	2 8 -0.1	3	2.5	26
87.342	129.4	1.27	2 5 -0.2	3	1.8	26
87.350	133.3	1.30	2 5 -0.1	3	2.4	26
87.358	129.7	1.19	2 6 -1.0	3	2.2	26
77.140	156.9	1.17	4n 2.4		26-Inch	
79.296	150.6	1.26	3n 2.7		26-Inch	
82.354	138.0	1.32	3n 2.5		26-Inch	
85.309	131.2	1.36	4n 2.6		26-Inch	
87.331	129.9	1.28	4n 2.2		26-Inch	

Baize, 1980: -1.6, -0.05; -2.6, +0.01;
-8.2, +0.01; -8.8, -0.01;
-6.2, -0.13.
Heintz, 1986: +2.2, +0.02; +1.8, +0.07;
-3.0, +0.07; -3.0, +0.04;
-0.1, -0.09.

8155	A 137		11 25.5 -07 58			
80.246	91.0	0.41	2 5 +0.6	3	0.2	36
80.251	96.2	0.41	2 7 0.0	3	0.2	36
82.360	95.7	0.36	2 8 0.0	3	0.6	26
85.351	102.5	0.51	2 5 -0.1	3	0.0	26
85.354	101.4	0.52	2 5 0.0	3	0.3	26
80.248	93.6	0.41	2n 0.2		36-Inch	
84.355	99.9	0.46	3n 0.3		26-Inch	

8160	A 2575		11 26.5 +08 06			
82.360	33.1	0.31	2 8 0.0	3	0.2	26
85.351	26.8	0.40	2 6 -0.2	3	0.0	26
85.354	29.5	0.38	2 7 0.0	3	0.2	26
84.355	29.8	0.36	3n 0.1		26-Inch	

8166	HU 462		11 27.2 -15 39			
83.143	326.7	0.36	2 5 +0.8	3	0.5	36
83.145	326.5	0.48	2 6 +0.8	3	0.2	36
83.148	329.6	0.45	2 6 +0.3	3	0.3	36
83.145	327.6	0.43	3n 0.3		36-Inch	

Couteau, 1962: +0.7, -0.06.

8167	A 138		11 27.3 -08 52			
82.360	219.3	1.76	2 7 0.0	3	0.9	26
85.351	219.1	1.71	2 5 -0.1	3	1.2	26
85.354	220.6	1.81	2 5 +0.1	3	1.6	26
84.355	219.7	1.76	3n 1.2		26-Inch	

	FIN 184		11 27.3 -59 15			
80.243	61.6	0.64	2 7 +0.3	3	0.2	36
80.246	61.0	0.60	2 4 +0.3	3	0.6	36
80.249	63.5	0.75	2 8 +0.6	3	0.2	36
80.244	62.0	0.66	3n 0.3		36-Inch	

Slight angular increase.

8170	MLB 208		11 28.1 +62 15			
76.344	43.8	1.84	2 5 -0.1	3	0.4	26
77.133	44.2	1.61	2 7 -0.1	3	0.6	26
77.169	44.5	1.70	2 5 -0.3	3	0.6	26
76.882	44.2	1.72	3n 0.5		26-Inch	

	I 886		11 28.5 -61 00			
83.173	339.6	1.22	2 6 +0.3	2	1.4	60
83.176	342.8	1.29	2 5 +0.4	2	0.8	60
83.174	341.2	1.26	2n 1.1		60-Inch	

	FIN 185		11 28.9 -54 53			
83.173	190.4	3.02	2 5 +0.5	2	3.2	60
83.176	187.9	3.00	2 5 +0.5	2	3.5	60
83.174	189.2	3.01	2n 3.4		60-Inch	

8182 A 7 11 29.7 -06 18

80.246	225.8	0.22	2	5	+0.4	3		36
80.251	228.8	0.19	2	8	0.0	3	0.0	36
80.248	227.3	0.20	2n		0.0			36-Inch

No measures since my own in 1963. Continued angular decrease.

8185 BU 340 11 29.9 +03 12

86.252	8.2	4.23	1	4	-0.1	3	2.0	26
87.342	9.7	4.43	1	5	-0.2	3	2.4	26
87.350	8.6	4.28	4	2	0.0	3	2.0	26
86.981	8.8	4.31	3n		2.1			26-Inch

8189 STT 234 11 30.8 +41 17

79.181	104.7	0.20	2	7	-0.2	3		26
79.372	109.4	0.17	2	6	0.0	3	0.0	26
80.095	110.6	0.25	2	6	-0.5	3		26
80.295	111.8	0.20	2	6	-0.1	3	0.0	26
82.327	122.2	0.22	2	6	-0.2	3		26
82.343	130.1	0.25	2	6	-0.9	3	0.4	26
82.346	124.0		2	5	-1.1	3	0.3	26
82.360	129.3	0.24	2	7	-0.9	3	0.3	26
85.354	138.6	0.34	2	7	-0.5	3	0.7	26
85.384	136.0	0.29	2	6	0.0	3	0.5	26
87.273	139.0	0.39	2	7	-0.1	3	0.6	26
87.350	135.8	0.37	2	5	-0.2	3	0.5	26
87.372	136.1	0.33	2	6	-0.3	3	0.4	26
79.736	109.1	0.20	4n		0.0			26-Inch
82.360	126.4	0.25	4n		0.3			26-Inch
85.369	137.3	0.32	2n		0.6			26-Inch
87.332	137.0	0.36	3n		0.5			26-Inch

Couteau, 1987: -1.4, -0.03; +3.0, -0.03;
+4.0, -0.02; -1.3, -0.02.

FIN 44 11 31.7 -54 45

80.227	80.0	0.77	2	4	+0.4	3	0.0	60
80.230	80.8	0.77	2	5	+0.5	3	0.0	60
80.228	80.4	0.77	2n		0.0			60-Inch

Angular decrease.

8197 STT 235 11 32.4 +61 05

77.108	154.4	0.35	1	5	-0.1	3	1.2	26
77.133	155.9	0.36	1	7	0.0	3	1.2	26
77.169	155.9	0.31	1	6	-0.3	3	1.8	26
77.281	158.2	0.36	1	5	-0.2	3	1.2	26
78.064	167.4	0.27	1	5	-0.3	3	1.2	26
79.184	188.3	0.29	2	6	-0.5	3	1.2	26
79.372	191.2	0.31	2	6	-0.1	3	1.2	26
80.095	197.0	0.30	2	6	-0.5	3	1.2	26
80.295	200.4	0.28	1	6	-0.3	3	1.0	26
81.341	218.4	0.41	2	5	-0.4	3	1.5	26
82.131	231.4	0.39	2	6	-0.1	3	1.0	26
82.327	232.5	0.38	2	5	-0.2	3	1.0	26
82.343	224.3	0.34	1	6	-1.0	3	1.2	26
82.346	223.8	0.39	1	5	-1.2	3	1.3	26
85.329	260.3	0.46	2	5	-0.4	3	1.4	26
85.351	257.9	0.41	2	5	-0.6	3	1.1	26
85.354	259.5	0.51	2	7	-0.3	3	1.2	26
85.384	258.9	0.41	2	6	-0.1	3	1.6	26
87.273	273.1	0.54	2	7	0.0	3	1.4	26
87.342	272.0	0.61	2	5	-0.1	3	1.2	26
87.350	271.0	0.56	2	4	-0.1	3	1.2	26
87.372	273.4	0.52	2	6	-0.1	3	0.8	26
77.173	156.1	0.34	4n		1.3			26-Inch
78.873	182.3	0.29	3n		1.2			26-Inch
80.577	205.3	0.33	3n		1.2			26-Inch
82.332	228.0	0.38	4n		1.1			26-Inch
85.354	259.2	0.45	4n		1.3			26-Inch
87.334	272.4	0.56	4n		1.2			26-Inch

Heintz, 1972: -0.9, -0.03; -1.7, -0.06;
-5.1, -0.05; -4.2, -0.05;
+0.8, -0.08; +1.0, -0.01.
A later orbit by Starikova gives worse residuals.

8205 A 71 11 32.5 -05 24

80.251	240.5	2.16	2	8	+0.1	3	3.8	36
80.251	240.5	2.16	1n		3.8			36-Inch

NZO 23 11 32.7 -65 52

83.176	240.1	0.86	2	4	+0.5	2	0.8	60
83.184	239.0	0.91	2	6	+0.3	2	0.5	60
83.180	239.6	0.88	2n		0.6			60-Inch

8210 HU 727 11 33.3 +49 28

82.313	203.3	1.16	2	7	0.0	3		26
82.327	204.5	1.30	2	5	-0.1	3	0.2	26
82.346	203.7	1.22	2	7	0.0	3	0.2	26
82.329	203.8	1.23	3n		0.2			26-Inch

8213 A 139 11 33.5 -09 07

80.246	168.5	2.15	2	5	+0.3	3	1.4	36
80.251	167.2	1.98	2	8	+0.2	3	0.8	36
80.248	167.8	2.06	2n		1.1			36-Inch

8216 J 86 11 34.3 +04 07

79.181	95.4	2.29	2	5	-0.2	3	1.2	26
79.372	94.1	2.40	2	6	0.0	3	1.0	26
81.349	91.8	2.52	2	4	+0.1	3	1.3	26
79.967	93.8	2.40	3n		1.2			26-Inch

B 1701 11 35.2 -20 33

83.148	213.3	0.54	2	6	+0.4	3	0.2	36
83.151	212.3	0.53	2	8	+0.5	3	0.1	36
83.150	212.8	0.54	2n		0.2			36-Inch

8239	BU 456			11 36.9	-12 21				
	83.143	144.0	0.91	2	5	+0.8	3	0.3	36
	83.145	143.3	0.77	2	7	+0.7	3	0.3	36
	83.151	143.6	0.85	2	8	+0.6	3	0.3	36
	83.146	143.6	0.84	3n	0.3	36-Inch			
	Scardia, 1982: +2.0, 0.00.								
8244	HU 728			11 37.8	+49 49				
	76.342	113.2	0.31	3	7	0.0	4	0.6	26
	76.344	113.7	0.40	1	5	0.0	3	0.8	26
	77.377	113.6	0.34	3	6	-0.4	3	1.0	26
	76.688	113.5	0.35	3n	0.8	26-Inch			
	B 1702			11 39.2	-31 02				
	83.154	90.3	0.54	2	5	+1.5	3	0.2	36
	83.159	94.3	0.50	2	7	+1.0	3	0.2	36
	83.156	92.3	0.52	2n	0.2	36-Inch			
	B 1705			11 39.4	-65 24				
	83.170	227.1	0.24	2	6	+0.4	2	0.7	60
	83.173	231.0	0.24	2	5	+0.4	2	0.8	60
	83.172	229.0	0.24	2n	0.8	60-Inch			
	More than a quadrant has been described.								
	I 307			11 39.5	-51 41				
	83.176	41.6	0.80	2	5	+0.5	2	0.4	60
	83.184	41.0	0.90	2	7	+0.3	2	0.4	60
	83.180	41.3	0.85	2n	0.4	60-Inch			
8267	A 1356			11 40.9	-02 47				
	80.251	290.2	1.42	2	8	+0.1	3	1.4	36
	80.251	290.2	1.42	1n	1.4	36-Inch			
	HDO 212			11 41.2	-61 08				
	83.170	323.4	1.00	2	6	+0.5	2	0.2	60
	83.173	324.9	1.09	2	6	+0.5	2	0.2	60
	83.172	324.2	1.04	2n	0.2	60-Inch			
	ALD 106			11 42.4	-61 13				
	80.227	115.4	2.83	2	5	+0.3	3	0.0	60
	80.230	115.8	2.78	2	5	+0.4	3	0.1	60
	80.228	115.6	2.80	2n	0.0	60-Inch			
8275	HU 888			11 42.8	+21 05				
	85.351	167.6	0.60	2	5	-0.2	3	0.3	26
	85.354	168.8	0.61	2	5	0.0	3		26
	85.384	171.8	0.58	2	6	0.0	3	0.4	26
	85.363	169.4	0.60	3n	0.4	26-Inch			
8276	HU 1135			11 43.2	+37 15				
	82.313	340.0	0.63	2	5	0.0	3	0.6	26
	82.327	337.2	0.44	2	5	-0.1	3	0.8	26
	82.346	334.8	0.55	2	7	-0.1	3	0.6	26
	82.360	336.6	0.50	2	8	-0.1	3	0.5	26
	82.336	337.2	0.53	4n	0.6	26-Inch			
	RST 3558a			1	4.6	-49 25			
	80.230	240.0	0.16	2	6	+0.5	3	0.4	60
	80.232	247.0	0.13	2	5	+0.4	3		60
	83.167	267.2	0.14	2	5	+0.3	2		60
	83.170	262.0	0.24	2	6	+0.5	2	0.5	60
	80.231	243.5	0.14	2n	0.4	60-Inch			
	83.168	264.6	0.19	2n	0.5	60-Inch			
	Not even the direction of motion was evident from the early measures.								
	Heintz, 1985: -0.7, -0.04; -5.2, -0.07.								
	R 180			11 46.7	-53 09				
	83.167	184.5	2.28	2	5	+0.3	2	1.4	60
	83.170	183.2	2.19	2	6	+0.6	2	1.2	60
	83.168	183.8	2.24	2n	1.3	60-Inch			
8302	BU 602			11 46.9	+15 00				
	79.372	114.2	0.31	2	5	0.0	3	2.5	26
	82.313	107.8	0.37	2	5	0.0	3	2.4	26
	82.346	118.2	0.51	2	5	0.0	3	1.7	26
	82.360	108.8	0.49	2	8	0.0	3	2.4	26
	81.598	112.2	0.42	4n	2.2	26-Inch			
8309	A 2380			11 47.9	-15 27				
	83.143	60.3	0.26	2	6	+0.8	3	0.0	36
	83.145	55.9	0.24	2	8	+0.7	3	0.0	36
	83.151	55.2	0.21	2	7	+0.6	3		36
	83.146	57.1	0.24	3n	0.0	36-Inch			
	FIN 366			11 49.5	-46 04				
	83.154	165.5	0.28	2	6	+0.5	3		36
	83.159	166.0	0.24	2	6	+1.0	3		36
	83.156	165.8	0.26	2n		36-Inch			

	RST 1616		11 50.7 -41 37						
83.176	50.2	2.58	2	5	+0.5	2	2.6	60	
83.184	49.1	2.57	2	7	+0.3	2	1.8	60	
83.180	49.6	2.58	2n	2.2			60-Inch		
	HJ 191		11 51.2 +11 59						
85.351	271.0	24.25	2	5	-0.3	3	2.0	26	
85.354	271.6	24.22	2	6	-0.1	3	1.5	26	
85.352	271.3	24.24	2n	1.8			26-Inch		

This is the only measure since the discovery in 1820.

8323	HU 730		11 51.8 +50 32						
76.342	155.6	0.18	2	7	0.0	4	0.1	26	
77.133	158.7	0.23	1	7	-0.1	3	0.0	26	
77.374	163.2	0.22	2	6	0.0	3	0.0	26	
77.377	152.4	0.24	3	5	-0.4	3	0.0	26	
77.056	157.5	0.22	4n	0.0			26-Inch		
	SEE 137		11 52.0 -43 57						
83.154	322.1	1.64	2	6	+0.7	3	0.2	36	
83.159	322.9	1.66	2	6	+1.0	3	0.3	36	
83.156	322.5	1.65	2n	0.2			36-Inch		
8330	A 1776		11 52.8 +43 36						
76.344	202.6	1.78	1	5	-0.1	3	2.0	26	
77.133	208.6	1.88	2	7	0.0	3	2.4	26	
77.374	211.6	2.01	2	5	+0.1	3	1.8	26	
77.377	206.1	1.90	3	5	-0.3	3	2.2	26	
77.057	207.2	1.89	4n	2.1			26-Inch		
	HJ 4478		11 53.0 -33 54						
83.154	23.6	0.91	2	6	+0.3	3	0.6	36	
83.159	24.3	0.76	2	6	+1.1	3	0.4	36	
83.156	24.0	0.84	2n	0.5			36-Inch		
	FIN 190		11 53.0 -57 02						
80.227	306.4	0.85	2	5	+0.2	3	0.2	60	
80.230	305.6	0.82	2	6	+0.5	3	0.2	60	
80.228	306.0	0.84	2n	0.2			60-Inch		
8332	A 2579		11 53.2 -15 40						
83.143	63.6	0.32	2	5	+0.8	3		36	
83.145	65.4	0.35	2	6	+0.7	3	0.4	36	
83.151	63.5	0.34	2	7	+0.6	3	0.3	36	
83.146	64.2	0.34	3n	0.4			36-Inch		

Baize, 1981: +2.8, +0.01.

8337	BU 794		11 53.7 +73 46						
85.354	239.6	0.19	2	6	-0.1	3		26	
85.384	226.3	0.23	2	5	-0.1	3		26	
85.369	233.0	0.21	2n				26-Inch		

Heintz, 1963: +2.8, +0.01.

8344	A 75		11 54.1 +71 56						
85.354	197.0	0.24	1	6	0.0	3	0.7	26	
85.384	205.1	0.20	2	5	0.0	3		26	
87.273	196.1	0.22	1	6	-0.2	3	0.6	26	
87.372	200.5	0.21	1	5	-0.4	3		26	
86.346	199.7	0.22	4n	0.6			26-Inch		

Baize, 1953: +3.3, -0.03.

	WOR 20		11 54.4 +15 16						
79.372	307.3	1.41	2	5	0.0	3	0.2	26	
82.313	305.5	1.57	2	6	0.0	3	0.3	26	
82.346	305.7	1.39	2	6	-0.1	3	0.2	26	
82.360	305.4	1.36	2	8	0.0	3	0.1	26	
81.598	306.0	1.43	4n	0.2			26-Inch		

Slow decrease in angle and separation.

	HLD 114		11 55.0 -56 05						
80.227	174.4	3.51	2	5	+0.3	3	0.3	60	
80.230	174.6	3.54	2	6	+0.5	3	0.2	60	
80.228	174.5	3.52	2n	0.2			60-Inch		
8355	STT 241		11 56.3 +35 27						
87.342	141.2	1.75	2	5	-0.2	3	1.3	26	
87.350	138.2	1.64	2	4	-0.3	3	2.2	26	
87.372	141.0	1.56	2	6	-0.2	3	1.5	26	
87.355	140.1	1.65	3n	1.7			26-Inch		
8360	HU 1490		11 57.0 -25 28						
80.240	58.2	0.95	2	8	+0.1	3	0.8	36	
80.243	57.7	0.74	2	7	+0.6	3	0.7	36	
80.249	61.0	0.90	2	9	+0.8	3	0.7	36	
83.151	55.8	0.86	2	6	+0.7	3	0.7	36	
83.156	59.3	0.89	2	4	0.0	3	0.6	36	
80.244	59.0	0.86	3n	0.7			36-Inch		
83.154	57.6	0.88	2n	0.6			36-Inch		
	RST 3766		11 58.2 -10 21						
80.251	289.3	0.21	2	7	0.0	3	0.8	36	
80.251	289.3	0.21	1n	0.8			36-Inch		

	FIN 192			11 59.7 -63 24						
83.173	268.8	0.34	2	4	+0.3	2	0.8	60		
83.184	268.6	0.24	2	5	+0.2	2		60		
83.178	268.7	0.29	2n		0.8			60-Inch		

This is the only measure since discovery 52 years ago. Direct motion.

8378	STT 243			11 59.9 +53 24						
76.344	9.1	1.15	1	4	-0.1	3	1.0	26		
77.133	10.4	1.09	1	7	0.0	3	1.2	26		
77.374	9.9	1.23	1	5	0.0	3	0.8	26		
77.377	8.2	1.10	1	6	-0.5	3	1.0	26		
77.057	9.4	1.14	4n		1.0			26-Inch		

8394	BU 457			12 01.4 -21 31						
80.240	90.0	1.83	2	8	0.0	3	1.4	36		
80.243	86.3	1.74	2	8	+0.6	3	1.4	36		
80.249	88.8	1.90	2	9	+0.8	3	1.2	36		
80.244	88.4	1.82	3n		1.3			36-Inch		

	RST 568			12 01.6 -49 58						
80.246	87.6	1.97	4	5	+0.2	3	0.8	36		
83.167	87.8	1.92	2	4	+0.2	2	0.6	60		
83.170	87.1	1.86	2	6	+0.5	2	0.2	60		
80.246	87.6	1.97	1n		0.8			36-Inch		
83.168	87.4	1.89	2n		0.4			60-Inch		

	I 895			12 01.7 -41 49						
83.154	321.1	0.75	4	5	+0.6	3		36		
83.159	317.1	0.77	2	6	+1.0	3	0.6	36		
83.156	319.1	0.76	2n		0.6			36-Inch		

	I 215			12 01.8 -34 39						
83.154	102.7	0.96	2	6	+0.9	3	0.4	36		
83.159	99.0	0.79	2	6	+1.1	3	1.2	36		
83.156	100.8	0.82	2n		0.8			36-Inch		

Valbousquet, 1980: +4.8, +0.17.
Valbousquet was misled by his 1979 measure, which is 0.2" too small.

8396	A 2163			12 02.2 +21 08						
82.360	164.0	0.61	2	8	-0.1	3	0.3	26		
87.273	167.2	0.62	2	7	-0.2	3	0.2	26		
87.342	154.6	0.49	2	5	-0.2	3	0.0	26		
85.658	161.9	0.57	3n		0.2			26-Inch		

	RST 570			12 02.2 -52 31						
80.227	228.8	0.64	2	4	+0.3	3	0.2	60		
80.230	225.8	0.61	1	6	+0.5	3	0.2	60		
80.232	230.1	0.60	2	5	+0.2	3		60		
80.230	228.2	0.62	3n		0.2			60-Inch		

	SEE 143			12 03.6 -39 00						
83.167	88.0	1.03	2	5	+0.3	2	0.4	60		
83.170	86.6	0.98	2	6	+0.7	3	0.3	60		
83.176	89.2	1.03	2	6	+0.4	3	0.6	60		
83.171	87.9	1.01	3n		0.4			60-Inch		

Eggen, 1965: +3.4, +0.12.

8404	A 681			12 03.7 +25 07						
82.346	61.6	0.29	2	6	0.0	3	0.4	26		
82.360	56.6	0.24	2	7	0.0	3	0.5	26		
85.354	50.3	0.30	2	6	0.0	3	0.4	26		
83.353	56.2	0.28	3n		0.4			26-Inch		

8415	A 1358			12 05.3 +56 47						
76.342	46.2	0.56	2	6	+0.1	4	0.2	26		
77.133	47.3	0.59	2	7	0.0	3	0.2	26		
77.374	50.8	0.65	2	4	+0.1	3	0.2	26		
77.377	50.4	0.59	2	5	-0.3	3	0.2	26		
77.056	48.7	0.60	4n		0.2			26-Inch		

8418	B 219			12 05.9 -27 17						
80.240	117.0	1.41	2	8	+0.2	3	0.0	36		
80.243	116.8	1.30	2	7	+0.7	3	0.0	36		
80.249	116.0	1.34	2	9	+0.8	3	0.1	36		
83.145	117.1	1.44	2	6	+0.6	3	0.1	36		
83.151	119.1	1.45	2	7	+0.6	3	0.2	36		
80.244	116.6	1.35	3n		0.0			36-Inch		
83.148	118.1	1.44	2n		0.2			36-Inch		

	FIN 48			12 08.5 -56 17						
83.167	111.4	1.92	2	5	+0.3	2	3.5	60		
83.170	111.2	2.01	2	6	+0.5	2	3.0	60		
83.168	111.3	1.96	2n		3.2			60-Inch		

This is the only measure since discovery. Decrease in angle.

	I 216			12 09.8 -51 47						
80.246	30.7	1.00	2	5	+0.2	3	2.8	36		
83.173	20.5	1.31	1	5	+0.3	2	2.0	60		
83.176	27.3	1.14	2	5	+0.4	2	2.8	60		
83.184	24.3	1.24	2	5	+0.2	2	3.0	60		
80.246	30.7	1.00	1n		2.8			36-Inch		
83.178	24.0	1.23	3n		2.6			60-Inch		

	STF 3079		12 10.6 -04 44				
87.342	87.5	14.98	2 5 -0.1	3	0.8	26	
87.372	87.3	15.13	2 5 0.0	3	0.7	26	
87.357	87.4	15.06	2n 0.8			26-Inch	

8446	STF 1606		12 10.9 +39 54				
79.372	264.2	0.33	2 6 0.0	3	0.5	26	
81.349	256.3	0.30	2 5 -0.3	3	0.3	26	
82.313	258.7	0.32	2 6 -0.1	3	0.5	26	
82.327	260.5	0.27	2 6 -0.4	3		26	
85.354	246.4	0.29	2 5 0.0	3	0.7	26	
85.384	244.5	0.33	2 6 -0.2	3	0.6	26	
87.273	243.2	0.26	2 8 -0.3	3	0.5	26	
87.342	242.0	0.30	2 5 -0.2	3	0.7	26	
87.372	236.7	0.28	2 6 0.0	3		26	
81.340	259.9	0.30	4n 0.4			26-Inch	
85.369	245.4	0.31	2n 0.6			26-Inch	
87.329	240.6	0.28	3n 0.6			26-Inch	

van der Wiele, 1974: +1.1, -0.07;
+1.3, 0.00;
+2.8, -0.01.

	HU 1604		12 11.1 -53 02				
83.167	318.1	0.33	2 5 +0.5	2	0.3	60	
83.170	316.4	0.28	2 5 +0.7	2	0.5	60	
83.168	317.2	0.30	2n 0.4			60-Inch	

8456	A 1780		12 12.0 +13 00				
82.360	325.9	1.07	2 7 0.0	3	2.0	26	
85.354	323.2	1.32	2 6 0.0	3	3.0	26	
85.384	331.4	1.31	2 6 0.0	3	2.2	26	
84.366	326.8	1.23	3n 2.4			26-Inch	

	I 1551		12 13.4 -40 04				
80.246	56.3	0.90	2 5 +0.2	3	0.8	36	
80.251	54.6	0.96	2 5 +0.6	3	0.6	36	
80.248	55.4	0.93	2n 0.7			36-Inch	

	HWE 72		12 13.6 -33 47				
83.176	164.0	1.36	2 6 +0.4	2	2.0	60	
83.184	162.0	1.46	2 5 +0.3	2	2.8	60	
83.180	163.0	1.41	2n 2.4			60-Inch	

8466	HU 735		12 13.8 -24 56				
83.145	182.0	0.62	2 6 +0.7	3	0.4	36	
83.151	183.2	0.58	2 6 +0.7	3	0.2	36	
83.148	182.6	0.60	2n 0.3			36-Inch	

	RST 1658		12 15.4 -31 05				
80.224	304.0	0.58	2 6 +0.5	3	0.5	60	
80.230	304.9	0.51	2 5 +0.4	3	0.5	60	
80.232	308.4	0.57	2 5 +0.2	3	0.5	60	
83.143	333.9	0.30	2 6 +0.8	3	0.6	36	
83.145	328.6	0.33	2 6 +0.8	3	0.5	36	
83.151	326.5	0.31	2 6 +0.7	3	0.5	36	
80.229	305.8	0.55	3n 0.5			60-Inch	
83.146	329.7	0.31	3n 0.5			36-Inch	
83.184	331.0	0.36	1n 0.8			60-Inch	

Heintz, 1981: +1.0, -0.03; +8.7, -0.19;
+9.8, -0.14.
A later orbit by Starikova is worse.

8485	HU 736		12 16.0 +48 07				
76.342	234.2	0.19	2 6 0.0	4	0.0	26	
77.133	247.4	0.23	2 5 +0.1	3		26	
77.377	252.7	0.21	2 4 -0.3	3	0.0	26	
76.951	244.8	0.21	3n 0.0			26-Inch	

Heintz, 1974: +12.1, +0.04.
Couteau, 1984: + 5.3, 0.00.

8486	STF 1621		12 16.0 +05 39				
76.342	310.9	0.31	2 7 +0.1	3	0.3	26	
77.133	318.2	0.34	2 7 0.0	3	0.2	26	
77.404	323.2	0.35	2 6 +0.1	3	0.2	26	
79.372	342.0	0.36	1 4 0.0	3	0.3	26	
82.313	357.5	0.60	1 5 -0.1	3	0.6	26	
82.327	354.0	0.49	2 5 -0.3	3	0.5	26	
82.346	357.9	0.50	1 5 -0.1	3	0.5	26	
85.354	14.8	0.69	2 5 +0.1	3		26	
87.273	12.7	0.67	1 6 -0.3	3	0.5	26	
87.342	19.9	0.59	2 5 -0.1	3		26	
87.372	14.1	0.63	1 5 0.0	3		26	
76.960	317.4	0.33	3n 0.2			26-Inch	
81.590	352.8	0.49	4n 0.5			26-Inch	
86.835	15.4	0.64	4n 0.5			26-Inch	

Heintz, 1982: -3.7, -0.05; -5.8, -0.05;
-4.4, -0.10.

8500	BU 796		12 17.5 +06 36				
79.331	92.0	0.23	2 5 0.0	3	1.0	26	
82.313	94.3	0.22	2 5 0.0	3	0.8	26	
82.327	95.3	0.21	2 6 +0.1	3	0.8	26	
81.324	93.9	0.22	3n 0.9			26-Inch	

8504	HU 1138		12 17.9 +11 48				
79.331	359.3	1.26	1 5 +0.1	3	0.4	26	
82.327	4.3	1.20	2 5 -0.2	3	0.4	26	
82.346	3.4	1.43	2 6 0.0	3	0.3	26	
81.335	2.3	1.30	3n 0.4			26-Inch	

8508	A 2059		12 19.4 +17 44			
82,360	12.0	0.50	2 7	-0.1	3	1.4 26
85.384	8.7	0.54	2 6	0.0	3	2.2 26
83.872	10.4	0.52	2n	1.8		26-Inch
	FIN 197		12 20.3 -63 41			
83.154	86.3	0.33	2 5	+0.8	3	0.2 36
83.159	81.3	0.29	2 5	+1.0	3	36
83.156	83.8	0.31	2n	0.2		36-Inch

This is the only measure since discovery.
Decrease in distance.

8528	HLD 12		12 21.8 -02 37			
77.133	99.9	1.00	2 6	0.0	3	0.8 26
79.331	102.1	0.88	2 4	+0.2	3	0.5 26
82.327	100.0	1.05	2 5	-0.2	3	0.5 26
83.176	100.7	1.12	2 6	+0.4	2	0.7 60
83.180	99.7	1.27	2 6	+0.3	2	0.6 60
79.597	100.7	0.98	3n	0.6		26-Inch
83.180	100.2	1.20	2n	0.6		60-Inch

8539	STF 1639		12 24.4 +25 35			
86.408	326.9	1.61	2 7	-0.1	3	1.2 26
86.422	327.4	1.52	2 6	+0.2	3	0.8 26
86.427	328.1	1.56	2 7	-0.1	3	1.0 26
86.449	328.4	1.59	2 6	+0.6	3	1.4 26
86.426	327.7	1.57	4n	1.1		26-Inch

Aller, 1951: +3.2, +0.02.

8546	STF 1642		12 25.8 +44 44			
76.344	179.1	2.52	4 4	-0.1	3	0.7 26
77.377	180.6	2.49	2 5	-0.5	3	0.7 26
79.698	180.5	2.61	2 4	0.0	3	0.8 26
77.698	180.5	2.54	3n	0.7		26-Inch

8548	BU 922		12 26.1 -04 28			
80.240	128.9	0.66	2 8	+0.1	3	1.2 36
80.251	132.4	0.45	2 5	+0.1	3	0.6 36
82.360	123.7	0.36	2 7	0.0	3	0.8 26
80.246	130.6	0.56	2n	0.9		36-Inch
82.360	123.7	0.36	1n	0.8		26-Inch

8549	HLD 13		12 26.5 -01 53			
82.360	138.6	1.36	2 7	-0.1	3	0.3 26
82.360	138.6	1.36	1n	0.3		26-Inch

8551	A 78		12 26.7 -05 35			
77.133	123.2	0.23	3 6	0.0	3	0.0 26
82.327	126.9	0.18	2 5	-0.2	3	26
82.346	137.0	0.22	2 5	-0.1	3	0.5 26
82.360	141.9	0.18	2 7	0.0	3	26
81.042	132.2	0.20	4n	0.2		26-Inch

8553	STF 1643		12 27.2 +27 02			
82.327	11.6	2.52	2 6	-0.2	3	0.4 26
85.354	11.7	2.52	2 5	0.0	3	1.0 26
85.384	12.1	2.50	2 5	0.0	3	0.2 26
84.355	11.8	2.51	3n	0.5		26-Inch

The Hopmann orbit is erroneous.

	CPO 12 AXBC		12 28.3 -61 45			
80.240	209.8	2.14	2 8	+0.4	3	0.8 36
80.243	207.2	2.12	1 7	+0.6	3	0.8 36
80.249	210.9	2.03	2 8	+0.7	3	1.2 36
83.167	202.3	2.08	4 5	+0.5	2	0.8 60
83.170	204.4	2.00	2 5	+0.5	2	0.8 60
83.173	205.8	2.17	1 4	+0.3	2	1.2 60
80.244	209.3	2.10	3n	0.9		36-Inch
83.170	204.2	2.08	3n	0.9		60-Inch

	RST 4499 BC					
80.240	228.0	0.25	2 8	+0.3	3	0.0 36
80.243	229.5	0.24	2 7	+0.5	3	0.0 36
80.249	223.6	0.17	2 8	+0.6	3	0.0 36
83.167	195.0	0.20	1 5	+0.4	2	0.2 60
83.170	195.5	0.21	2 5	+0.4	2	60
83.173	195.9	0.20	1 5	+0.2	2	60
80.244	227.0	0.22	3n	0.0		36-Inch
83.170	195.5	0.20	3n	0.2		60-Inch

Rapid motion, few measures.

8569	STT 251		12 29.2 +31 24			
77.169	55.1	0.54	1 5	+0.1	3	1.8 26
77.404	47.6	0.58	1 7	-0.4	3	1.4 26
79.372	52.0	0.53	2 4	0.0	3	1.3 26
79.425	52.6	0.53	2 7	+0.3	3	1.5 26
78.342	51.8	0.54	4n	1.5		26-Inch

Baize, 1957: -1.0, -0.05.

8573	BU 28		12 30.1 -13 23			
83.151	324.1	1.85	2 7	+0.7	3	2.0 36
83.184	321.7	1.84	2 7	+0.5	2	2.2 60
83.151	324.1	1.85	1n	2.0		36-Inch
83.184	321.7	1.84	1n	2.2		60-Inch

da Silva, 1962: -0.3, -0.03; -2.7, -0.04.

	I 82			12 31.4	-41 30					
80.246	6.2	0.70	2	5	+0.5	3	0.8	36		
80.249	9.2	0.72	2	8	+0.7	3	1.0	36		
80.251	7.2	0.77	2	5	+0.4	3	0.5	36		
80.249	7.5	0.73	3n	0.8		36-Inch				
8589	A 2060			12 32.2	+16 48					
76.342	43.0	0.55	2	7	0.0	3	0.0	26		
77.133	47.7	0.62	2	7	0.0	3	0.0	26		
77.404	50.0	0.58	2	6	0.0	3	0.0	26		
76.960	46.9	0.58	3n	0.0		26-Inch				
	RST 599			12 32.4	-47 41					
83.167	288.8	0.42	2	6	+0.6	2	0.2	60		
83.170	285.7	0.38	2	7	+0.6	2	0.2	60		
83.168	287.2	0.40	2n	0.2		60-Inch				
	COU 595			12 34.0	+26 50					
85.354	174.4	0.73	2	5	0.0	3	1.0	26		
85.384	176.1	0.92	2	5	0.0	3	0.8	26		
85.369	175.2	0.82	2n	0.9		26-Inch				
8597	LV 5			12 34.1	-18 11					
80.251	347.2	1.13	2	5	+0.3	3		36		
80.254	340.4	1.06	2	7	+0.2	3	2.2	36		
80.252	343.8	1.10	2n	2.2		36-Inch				
	I 1222			12 36.9	-32 10					
80.224	222.9	0.40	2	5	+0.2	3		60		
80.230	222.4	0.34	2	5	+0.1	3	0.2	60		
80.227	222.6	0.37	2n	0.2		60-Inch				
	B 1215			12 39.2	-40 22					
83.167	51.0	0.22	2	6	+0.6	2	0.2	60		
83.170	51.6	0.26	2	7	+0.6	2	0.2	60		
83.168	51.3	0.24	2n	0.2		60-Inch				

Heintz, 1985: -0.4, -0.02.

	DAW 63			12 39.7	-37 17					
80.224	329.9	0.47	2	5	+0.3	3	0.4	60		
80.230	328.4	0.44	2	4	+0.3	3	0.5	60		
80.232	326.8	0.39	2	4	0.0	3	0.5	60		
83.143	341.7	0.34	2	6	+0.8	3	0.5	36		
83.151	341.0	0.29	2	7	+0.9	3	0.3	36		
83.159	338.9	0.31	2	6	+1.3	3	0.4	36		
80.229	328.4	0.43	3n	0.5		60-Inch				
83.151	340.5	0.31	3n	0.4		36-Inch				

Knipe, 1966: -19.5, +0.03; -19.5, -0.11.
The orbit fails.

8626	BU 607			12 41.2	-01 28					
82.327	307.8	0.89	2	6	-0.2	3	1.0	26		
82.346	310.6	0.95	2	5	-0.1	3	1.0	26		
82.360	304.6	0.82	2	6	0.0	3	1.0	26		
82.344	307.7	0.89	3n	1.0		26-Inch				
8630	STF 1670			12 41.7	-01 27					
76.344	299.3	4.08	3	4	-0.1	3	0.1	26		
76.405	300.1	4.06	2	5	-0.7	3	0.0	26		
77.169	299.7	4.27	2	4	-0.6	3	0.3	26		
77.377	299.3	4.11	2	4	-0.4	3	0.0	26		
77.404	299.4	4.01	2	6	-0.4	3	0.1	26		
77.423	298.9	4.05	2	5	-0.1	3	0.1	26		
82.313	294.4	3.67	2	6	0.0	3	0.0	26		
82.327	295.0	3.69	2	5	-0.1	3	0.0	26		
82.340	294.8	3.83	2	3	0.0	3	0.0	26		
82.346	295.2	3.71	2	5	0.0	3	0.0	26		
85.354	292.0	3.48	2	5	0.0	3	0.2	26		
85.384	291.4	3.28	2	6	-0.1	3	0.2	26		
86.408	290.5	3.23	2	7	0.0	3		26		
86.422	288.3	3.17	2	7	0.0	3	0.3	26		
86.427	291.2	3.10	2	7	-0.5	3	0.2	26		
86.449	290.9	3.11	2	6	0.0	3	0.2	26		
77.020	299.4	4.10	6n	0.1		26-Inch				
82.332	294.8	3.72	4n	0.0		26-Inch				
86.074	290.7	3.23	6n	0.2		26-Inch				

Strand, 1937: +0.5, -0.02; +0.1, +0.01;
-0.6, +0.16.

8635	A 1851			12 42.1	+26 21					
76.342	212.7	0.39	2	6	0.0	3	0.5	26		
76.405	213.4	0.36	1	6	-0.3	3	0.5	26		
77.133	217.5	0.38	1	7	0.0	3	0.6	26		
77.169	223.8	0.38	2	5	+0.2	3	0.4	26		
77.404	220.6	0.38	2	6	-0.2	3	0.3	26		
77.423	220.6	0.37	1	6	0.0	3	0.5	26		
82.313	245.7	0.42	2	6	0.0	3	0.6	26		
82.327	245.1	0.34	2	6	-0.1	3	0.6	26		
82.346	245.8	0.44	2	5	-0.1	3	0.6	26		
82.360	245.8	0.38	2	7	0.0	3	0.5	26		
76.979	218.1	0.38	6n	0.5		26-Inch				
82.336	245.6	0.40	4n	0.6		26-Inch				

Heintz, 1984: -0.6, -0.02; +1.9, -0.04.
Soulie, 1986: 0.0, -0.03; +3.1, -0.05.
Better than the 1983 orbit by Costa and Docobo.

8636	HU 892			12 42.2	+14 31					
76.405	175.8	0.67	1	6	-0.2	3	0.3	26		
77.133	175.4	0.67	1	7	0.0	3	0.0	26		
77.169	176.2	0.67	1	4	+0.2	3	0.0	26		
77.404	177.3	0.70	1	6	-0.1	3	0.0	26		
77.028	176.2	0.68	4n	0.1		26-Inch				

DAW 140 12 44.7 -38 08

80.224	20.2	1.94	2	6	+0.4	3	0.3	60	
80.230	22.1	1.84	2	4	+0.4	3	0.6	60	
83.173	19.8	1.87	2	3	+0.2	2	1.8	60	
83.184	20.6	1.75	2	5	+0.2	3	1.0	60	
80.227	21.2	1.89	2n	0.4				60-Inch	
83.178	20.2	1.81	2n	1.4				60-Inch	

8655 A 1783 12 44.9 +43 25

82.327	217.1	1.78	2	6	-0.1	3	0.3	26	
82.346	216.3	1.83	2	5	-0.1	3	0.0	26	
82.360	218.9	1.81	2	7	+0.1	3	0.0	26	
82.344	217.4	1.81	3n	0.1				26-Inch	

R 207 12 46.3 -68 06

80.240	28.2	1.53	1	8	+0.4	3	0.3	36	
80.243	31.4	1.31	2	8	+0.4	3	0.2	36	
80.246	31.2	1.48	4	5	+0.3	3		36	
80.243	30.3	1.44	3n	0.2				36-Inch	

Mourao, 1964: +0.5, +0.10.

B 2301 12 48.9 -20 13

83.145	92.3	1.23	2	5	+0.5	3	0.7	36	
83.151	90.4	1.30	2	7	+0.6	3	0.6	36	
83.148	91.4	1.26	2n	0.6				36-Inch	

Direct motion, separation decreasing.

FIN 201 12 50.3 -75 06

83.154	225.1	0.77	2	5	+0.5	3	0.7	36	
83.159	224.0	0.76	2	5	+0.6	3	0.8	36	
83.156	224.6	0.76	2n	0.8				36-Inch	

8695 STF 1687 12 53.3 +21 14

77.404	160.6	1.15	1	6	-0.1	3	2.8	26	
77.423	161.7	1.03	1	7	0.0	3	2.2	26	
78.398	162.8	0.98	1	6	0.0	3	2.6	26	
77.742	161.7	1.05	3n	2.5				26-Inch	

Heintz, 1973: +1.1, 0.00.

8696 HU 894 12 53.3 +13 10

76.405	143.5	1.11	1	6	-0.2	3	0.1	26	
77.133	145.5	0.97	1	7	-0.1	3	0.0	26	
77.404	146.6	1.07	2	6	-0.2	3	0.2	26	
77.423	146.5	1.07	2	7	0.0	3	0.0	26	
77.091	145.5	1.06	4n	0.1				26-Inch	

FIN 66 12 53.7 -57 40

83.159	272.7	1.51	2	6	+0.7	3	0.5	36	
83.159	272.7	1.51	1n	0.5				36-Inch	

FIN 46 12 54.1 -63 10

80.224	118.2	1.19	2	5	+0.4	3	0.6	60	
80.230	117.8	0.98	2	3	+1.1	3	0.8	60	
80.227	118.0	1.08	2n	0.7				60-Inch	

RST 2819 12 54.9 -85 08

80.240	242.8	0.66	2	8	+0.4	3	0.5	36	
80.243	240.4	0.51	2	7	+0.4	3	0.5	36	
80.249	238.7	0.63	2	7	+0.4	3	0.5	36	
80.244	240.6	0.60	3n	0.5				36-Inch	

B 1724 12 55.9 -60 55

80.224	291.4	1.22	2	5	+0.5	3	0.4	60	
80.230	294.2	1.22	2	3	+1.1	3	0.8	60	
80.232	291.8	1.16	2	4	-0.2	3	0.4	60	
80.229	292.5	1.20	3n	0.5				60-Inch	

8709 A 2000 12 56.3 +43 01

82.327	51.7	1.04	2	6	-0.2	3	0.5	26	
82.346	48.7	0.90	2	6	-0.2	3	0.3	26	
82.360	51.4	1.11	2	7	0.0	3	0.2	26	
82.344	50.6	1.02	3n	0.3				26-Inch	

I 83 12 56.7 -47 41

83.151	224.4	0.80	2	8	+0.8	3	0.3	36	
83.154	227.4	0.77	2	5	+0.6	3	0.4	36	
83.152	225.9	0.78	2n	0.6				36-Inch	

van den Bos, 1953: +4.1, +0.04.

COU 397 12 57.5 +24 58

85.384	53.3	0.59	2	5	-0.2	3	0.8	26	
86.408	68.1	0.50	2	7	-0.2	3	1.0	26	
86.422	61.1	0.51	2	6	0.0	3	1.0	26	
86.427	61.0	0.54	2	7	-0.1	3	1.0	26	
86.160	60.9	0.54	4n	1.0				26-Inch	

8715 A 146 12 57.5 -09 45

83.176	288.4	1.68	2	6	0.0	2	2.5	60	
83.184	289.7	1.85	2	5	+0.2	2	2.5	60	
83.180	289.0	1.76	2n	2.5				60-Inch	

8717 STN 27 12 57.8 -13 08

76.405	68.0	2.09	2	5	-0.2	3	0.2	26
77.404	70.9	2.09	2	5	-0.1	3	0.2	26
77.423	71.0	2.04	2	6	0.0	3	0.3	26
77.077	70.0	2.07	3n		0.2			26-Inch

8719 BU 926 12 58.5 -06 03

83.176	270.0	2.58	2	5	+0.1	2	2.2	60
83.184	270.4	2.50	2	7	+0.3	2	2.0	60
83.180	270.2	2.54	2n		2.1			60-Inch

I 1224 13 00.0 -41 23

83.167	7.2	0.19	2	6	+0.5	2	0.0	60
83.170	4.9	0.19	2	7	+0.3	2	0.2	60
83.184	359.8	0.16	2	7	+0.3	2		60
83.174	4.0	0.18	3n		0.1			60-Inch

Motion still slow for this close pair.

8735 BU 112 BC 13 00.6 +18 23

76.405	296.4	2.06	2	5	-0.1	3	0.4	26
77.404	300.0	2.01	2	6	-0.1	3	0.4	26
77.423	299.3	2.13	2	7	+0.1	3	0.4	26
77.077	298.6	2.07	3n		0.4			26-Inch

8739 BU 1082 13 00.7 +56 22

76.405	39.0	1.31	1	6	0.0	3	2.7	26
77.133	41.3	1.39	1	7	-0.1	3	2.8	26
77.404	43.0	1.57	3	5	0.0	3	2.5	26
77.423	43.0	1.21	1	7	+0.1	3	2.5	26
82.327	55.6	1.40	2	6	0.0	3	2.2	26
82.346	58.0	1.36	2	6	-0.2	3	2.0	26
82.360	56.6	1.47	2	7	0.0	3	2.8	26
86.427	61.5	1.36	2	7	-0.5	3	2.2	26
86.449	69.6	1.65	2	5	-0.1	3	2.5	26
86.460	64.8	1.41	2	7	-0.1	3	2.8	26
86.463	64.1	1.46	2	5	+0.1	3	3.5	26
77.091	41.6	1.37	4n		2.6			26-Inch
82.344	56.7	1.41	3n		2.3			26-Inch
86.450	65.0	1.47	4n		2.8			26-Inch

Scardia, 1980: -0.8, +0.07; +5.7, +0.03;
+7.8, +0.04.
Heintz, 1981: -2.7, +0.05; +3.4, +0.02;
+5.3, +0.03.

FIN 55 13 02.0 -54 43

80.251	44.9	2.63	2	5	+0.4	3	2.3	36
80.254	46.8	2.65	2	6	+0.2	3	1.4	36
80.252	45.8	2.64	2n		1.8			36-Inch

This is the only measure since discovery.

8751 STF 1711 13 02.9 +13 29

85.354	334.2	0.55	2	6	-0.2	3		26
85.384	342.1	0.52	2	6	-0.2	3	0.3	26
86.408	339.7	0.57	2	7	-0.2	3	0.3	26
85.715	338.7	0.55	3n		0.3			26-Inch

FIN 64 13 03.2 -56 06

83.170	266.2	0.43	2	5	+0.4	2	0.6	60
83.176	265.2	0.42	2	5	+0.3	2	0.7	60
83.173	265.7	0.42	2n		0.6			60-Inch

8757 BU 341 13 03.7 -20 35

80.246	314.2	0.81	2	6	+0.2	3	0.2	36
80.251	312.5	0.80	2	6	0.0	3	0.2	36
80.254	314.1	0.83	2	7	-0.1	3	0.2	36
80.249	313.6	0.81	3n		0.2			36-Inch

8764 BU 798 13 04.0 -17 37

80.246	177.6	0.18	2	6	+0.3	3		36
80.251	175.9	0.18	2	6	+0.1	3	0.3	36
80.254	173.3	0.18	2	7	0.0	3		36
80.249	175.6	0.18	3n		0.3			36-Inch

8762 HU 642 13 04.5 -13 15

80.224	233.7	0.35	2	5	+0.5	3		60
80.232	232.8	0.32	2	6	+0.4	3	0.2	60
83.145	236.3	0.31	2	5	+0.4	3		36
83.151	231.9	0.28	2	8	+0.2	3	0.0	36
83.159	236.9	0.29	2	6	+0.7	3	0.2	36
80.228	233.2	0.34	2n		0.2			60-Inch
83.152	235.0	0.29	3n		0.1			36-Inch

Dommanget, 1978: + 7.3; +0.07.
+11.4; +0.02.

8772 BU 799 13 04.8 +73 02

79.425	264.2	1.21	2	6	-0.3	3	2.2	26
79.427	266.0	1.24	2	5	-0.2	3	2.4	26
80.446	263.0	1.25	2	6	-0.1	3	1.3	26
79.766	264.4	1.23	3N		2.0			26-Inch

8773 HU 643 13 05.5 +50 59

77.133	28.8	0.40	2	6	-0.1	3	0.3	26
77.423	33.6	0.36	2	7	+0.2	3	0.3	26
77.425	30.0	0.34	2	7	-0.1	3	0.5	26
77.997	30.8	0.37	3n		0.4			26-Inch

Heintz has two measures of this pair which probably belong to a closer nearby system.

I 916 13 06.6 -64 34

83.176	54.1	0.48	2	4	+0.4	2	0.2	60	
83.184	50.9	0.42	2	6	+0.4	2	0.3	60	
83.180	52.5	0.45	2n		0.2			60-Inch	

I 917 13 06.7 -46 02

83.154	283.7	1.24	2	5	+0.6	3	0.2	36	
83.159	283.4	1.28	2	6	+0.9	3	0.4	36	
83.156	283.6	1.26	2n		0.3			36-Inch	

8785 A 1605 13 06.9 +52 00

79.425	168.3	0.95	2	6	0.0	3	0.0	26	
82.313	169.2	0.95	2	5	-0.2	3	0.2	26	
82.327	167.8	0.89	2	5	-0.2	3	0.2	26	
81.355	168.4	0.93	3n		0.1			26-Inch	

HLD 118 13 07.9 -52 42

80.251	204.4	1.22	2	5	+0.2	3	0.2	36	
80.254	202.6	1.30	1	6	0.0	3	0.4	36	
80.252	203.5	1.26	2n		0.3			36-Inch	

8791 STT 260 13 08.0 +26 57

79.372	171.4	0.24	1	5	-0.5	3	0.0	26	
79.427	171.8	0.27	2	5	-0.1	3	0.0	26	
82.313	177.0	0.23	2	5	0.0	3	0.0	26	
82.327	174.3	0.26	2	5	0.0	3	0.0	26	
85.354	179.0	0.24	2	5	-0.2	3	0.0	26	
85.384	181.0	0.26	2	5	-0.1	3		26	
86.422	181.8	0.25	2	6	-0.1	3	0.3	26	
86.427	186.3	0.20	2	7	-0.5	3	0.5	26	
80.860	173.6	0.25	4n		0.0			26-Inch	
85.897	182.0	0.24	4n		0.3			26-Inch	

FIN 204 13 09.3 -57 37

80.251	84.8	2.13	2	5	+0.4	3	2.8	36	
80.254	85.7	2.15	2	5	+0.2	3	2.2	36	
80.252	85.2	2.14	2n		2.5			36-Inch	

8804 STF 1728 13 10.0 +17 31

76.262	193.5	0.17	3	5	0.0	4	0.0	26	
76.342	191.4	0.18	3	7	0.0	3	0.0	26	
77.133	191.2	0.25	1	6	-0.1	3	0.0	26	
77.377	192.9	0.25	1	4	0.0	3	0.0	26	
79.427	191.7	0.40	2	7	-0.7	3	0.0	26	
79.466	194.6	0.55	2	5	0.0	3	0.0	26	
80.446	192.2	0.50	2	5	-0.4	3	0.1	26	
80.449	194.3	0.51	2	3	-0.5	3	0.0	26	
82.313	194.1	0.76	2	5	0.0	3	0.0	26	
82.327	194.1	0.68	2	5	+0.1	3	0.0	26	
85.354	191.7	0.73	2	5	-0.2	3	0.0	26	
85.384	190.8	0.65	2	5	-0.1	3	0.0	26	
86.427	193.5	0.52	2	7	-0.5	3	0.1	26	
86.449	194.1	0.47	2	7	-0.3	3	0.0	26	
86.460	194.4	0.45	2	6	-0.3	3	0.1	26	
86.463	193.1	0.52	3	6	+0.1	3	0.1	26	
76.778	192.2	0.21	4n		0.0			26-Inch	
79.947	193.2	0.49	4n		0.0			26-Inch	
82.320	194.1	0.72	2n		0.0			26-Inch	
85.369	191.2	0.69	2n		0.0			26-Inch	
86.460	193.8	0.49	4n		0.1			26-Inch	

Pavel, 1949: +0.5, 0.00; +1.5, +0.01; +2.3, +0.12; -0.7, +0.10; +1.9, 0.00.

8801 MCA 38 Aa 13 10.0 -05 32

77.423	332.2	0.40	1	6	+0.3	3	1.6	26	
79.427	329.0	0.40	1	5	-0.4	3	1.5	26	
79.466	329.5	0.58	3	5	+0.4	3	1.5	26	
78.772	330.2	0.46	3n		1.5			26-Inch	

FIN 56 13 11.2 -55 22

80.249	179.4	0.28	2	8	+0.5	3	0.2	36	
80.251	182.1	0.27	2	4	+0.4	3		36	
80.250	180.8	0.28	2n		0.2			36-Inch	

Not observed since 1929. Decrease in angle and separation.

SEE 170 AB 13 12.3 -59 55

80.240	129.7	0.25	2	8	+0.2	3	0.5	36	
80.243	132.2	0.25	2	7	+0.2	3	0.3	36	
80.249	128.7	0.25	2	7	+0.2	3	0.8	36	
83.170	115.6	0.28	2	6	+0.3	2	0.7	60	
83.173	114.6	0.26	2	4	+0.1	2	0.5	60	
80.244	130.2	0.25	3n		0.5			36-Inch	
83.172	115.2	0.27	2n		0.6			60-Inch	

Finsen, 1964: +23.9 +0.03; +0.6, +0.03.

I 424 ABXC

80.240	7.6	2.02	1	8	+0.3	3	2.5	36	
80.243	6.0	1.80	2	8	+0.4	3	2.2	36	
80.249	7.7	1.85	2	8	+0.3	3	1.5	36	
80.244	7.1	1.89	3n		2.1			36-Inch	

8818 HWE 27 13 13.0 -29 06

83.173	290.7	2.87	2	5	0.0	2	2.2	60	
83.176	293.2	2.77	2	6	0.0	2	1.5	60	
83.174	292.0	2.82	2n		1.8			60-Inch	

I 1227 13 13.4 -50 42

83.170	68.1	0.11	2	5	+0.4	2	60
83.173	77.0	0.10	2	5	+0.3	2	60
83.184	68.0	0.13	2	6	+0.5	2	60
83.176	71.0	0.11	3n				60-Inch

Rapid motion.

RST 3827 13 14.1 -16 34

80.224	261.9	1.17	2	5	+0.6	3	0.0	60
80.232	262.4	1.28	2	6	+0.5	3	0.1	60
80.228	262.2	1.22	2n		0.1			60-Inch

B 1 13 15.1 +27 25

85.354	97.2	3.48	2	6	-0.1	3	0.4	26
86.422	96.1	3.43	2	6	+0.1	3	0.5	26
85.888	96.6	3.46	2n		0.4			26-Inch

FIN 206 13 16.5 -57 21

80.243	301.8	0.58	2	7	+0.4	3	0.2	36
80.249	291.0	0.60	2	7	+0.5	3	0.2	36
80.251	297.6	0.55	2	4	+0.4	3		36
80.248	296.8	0.58	3n		0.2			36-Inch

I 1567 13 16.9 -34 36

80.243	274.6	0.15	2	7	+0.6	3		36
80.249	265.5	0.21	2	7	+0.6	3	0.3	36
83.145	246.5	0.22	2	7	+0.8	3	0.0	36
83.151	248.5	0.25	2	7	+0.7	3	0.0	36
83.154	242.3	0.22	2	7	+0.7	3	0.2	36
80.246	270.0	0.18	2n		0.3			36-Inch
83.150	245.8	0.23	3n		0.1			36-Inch

Heintz, 1985: +2.6, -0.06; -3.4, +0.01.

8844 BU 222 13 17.4 -21 33

83.145	21.8	1.79	2	7	+0.7	3	0.8	36
83.159	19.7	1.88	2	8	+0.9	3	0.8	36
83.152	20.8	1.84	2n		0.8			36-Inch

RST 4977 13 17.6 -36 57

83.145	169.0	1.30	2	7	+0.8	3	0.2	36
83.154	168.3	1.24	2	5	+0.6	3	0.4	36
83.150	168.6	1.27	2n		0.3			36-Inch

This is the only measure since discovery.
Angular increase.

FIN 207 13 19.4 -58 46

83.173	93.2	4.76	2	5	+0.1	2	0.8	60
83.176	93.0	4.83	2	5	+0.3	2	2.2	60
83.174	93.1	4.80	2n		1.5			60-Inch

8862 HU 644 13 19.7 +47 46

77.133	273.8	1.28	2	7	-0.2	3	1.4	26
77.404	272.6	1.39	2	5	-0.2	3	0.8	26
77.423	272.5	1.29	2	7	0.0	3	0.6	26
78.398	272.8	1.39	2	6	-0.3	3	0.9	26
79.372	273.3	1.62	2	5	-0.7	3	0.8	26
79.425	272.8	1.51	2	7	-0.2	3	0.6	26
82.313	270.8	1.53	2	5	-0.3	3	1.0	26
82.327	271.2	1.67	2	5	-0.2	3	0.8	26
82.340	270.6	1.65	2	7	0.0	4	1.0	26
82.346	269.2	1.43	2	6	-0.3	3	0.8	26
85.354	267.9	1.41	2	6	-0.1	3	0.6	26
85.384	268.0	1.72	2	5	-0.1	3	1.2	26
86.408	267.7	1.34	2	7	-0.2	3	1.5	26
86.422	268.1	1.37	2	7	-0.2	3	1.2	26
77.320	273.0	1.32	3n		0.9			26-Inch
79.065	273.0	1.51	3n		0.8			26-Inch
82.332	270.4	1.57	4n		0.9			26-Inch
85.892	267.9	1.46	4n		1.1			26-Inch

Heintz, 1976: +0.6, -0.01; +1.6, +0.04;
+0.6, +0.06; 0.0, +0.13.
Soulie, 1986: -0.2, -0.01; +0.8, +0.04;
-0.1, +0.13; -0.6, +0.09.

SLR 18 13 22.9 -47 56

83.145	241.7	0.63	2	7	+1.0	3	0.3	36
83.151	243.7	0.65	2	7	+0.7	3	0.2	36
83.148	242.7	0.64	2n		0.2			36-Inch

FIN 209 13 23.3 -61 04

80.243	168.8	0.31	2	7	+0.4	3	0.5	36
80.243	168.8	0.31	1n		0.5			36-Inch

This is the only measure since discovery in 1928. Decrease in angle.

8887 HO 260 13 23.6 +29 14

82.313	73.4	1.19	2	6	-0.1	3	0.0	26
82.327	74.9	1.20	2	5	-0.1	3	0.4	26
82.340	72.6	1.18	2	7	+0.1	4	0.2	26
82.327	73.6	1.19	3n		0.2			26-Inch

Ambruster, 1978: +0.3, +0.12.

RST 3837 13 24.5 -10 26

80.224	225.4	0.38	2	5	+0.9	3	0.4	60
80.232	219.7	0.33	2	5	+0.6	3	0.2	60
80.228	222.6	0.36	2n		0.3			60-Inch

8901 A 1609 13 25.8 +44 30

77.133	100.0	0.22	2	7	+0.1	3	0.0	26
77.404	104.0	0.16	2	5	-0.2	3	0.0	26
77.423	112.5	0.17	1	7	0.0	3	0.0	26
79.425	132.5	0.15	2	7	-0.2	3	0.0	26
82.340	220.2	0.18	2	8	0.0	4		26
82.346	226.5	0.18	2	6	-0.4	3		26
82.360	231.3	0.20	2	6	-0.2	3		26
85.354	271.7	0.23	2	6	-0.1	3		26
86.408	293.1	0.22	2	7	-0.2	3		26
86.422	291.8	0.25	2	7	-0.1	3	0.4	26
86.427	291.2	0.25	2	7	-0.5	3	0.0	26
86.449	293.1	0.26	2	7	-0.1	3	0.1	26

77.320	105.5	0.18	3n	0.0	26-Inch
79.425	132.5	0.15	1n	0.0	26-Inch
82.349	226.0	0.19	3n		26-Inch
85.354	271.7	0.23	1n		26-Inch
86.426	292.3	0.24	4n	0.2	26-Inch

Heintz, 1967: -3.2, -0.03; -19.8, -0.01;
-4.5, +0.01; -12.3, 0.00;
-4.5, -0.02.
The orbit needs only relatively minor adjustment.

I 926 13 26.2 -46 03

80.251	245.8	1.33	2	4	+0.4	3	1.0	36
80.254	246.0	1.31	2	6	+0.1	3	1.0	36

80.252	245.9	1.32	2n	1.0	36-Inch

8906 BU 1107 13 27.1 -22 22

80.246	133.0	1.46	2	5	+0.2	3	0.1	36
80.254	133.4	1.48	2	8	+0.2	3	0.0	36

80.250	133.2	1.47	2n	0.0	36-Inch

FIN 351 13 27.1 -49 09

83.170	341.0	0.21	2	6	+0.3	2	0.0	60
83.173	338.8	0.19	2	5	+0.2	2	0.0	60
83.184	337.6	0.18	2	7	+0.3	2	0.1	60

83.176	339.1	0.19	3n	0.0	60-Inch

SEE 179 13 31.0 -39 25

80.240	125.4	0.21	2	8	+0.2	3		36
80.243	126.5	0.21	2	7	+0.5	3		36
80.249	125.2	0.22	2	7	+0.5	3		36
83.145	117.9	0.23	2	7	+1.0	3		36
83.151	114.6	0.24	2	8	+0.7	3		36
83.154	114.3	0.24	2	6	+0.6	3		36

80.244	125.7	0.21	3n	36-Inch
83.150	114.3	0.24	3n	36-Inch

Finsen, 1964: +9.1, +0.01; +4.2, +0.04.

R 220 13 31.9 -58 26

83.176	251.2	1.02	2	4	+0.1	2	0.6	60
83.184	247.3	1.03	2	7	+0.3	2	0.6	60

83.180	249.2	1.02	2n	0.6	60-Inch

WOR 24 13 32.0 +31 09

79.425	9.8	0.35	2	6	-0.2	3		26
82.313	340.3	0.27	2	5	-0.1	3		26
82.340	331.0	0.28	2	7	+0.1	4	0.2	26
82.346	334.6	0.33	2	6	-0.3	3	0.2	26

79.425	9.8	0.35	1n		26-Inch
82.333	335.3	0.29	3n	0.2	26-Inch

Baize, 1981: +8.8, +0.04; +5.8, +0.08.
Starikova, 1985: +6.2, +0.07; +6.8, +0.08.

FIN 369 13 32.0 -65 19

83.170	217.8	0.12	2	6	+0.3	2		60
83.184	229.6	0.12	2	8	+0.5	2	0.0	60

83.177	223.7	0.12	2n	0.0	60-Inch

Rapid direct motion.

8939 STT 269 13 32.8 +34 54

79.425	245.9	0.22	2	7	-0.1	3	0.2	26
79.427	237.7	0.22	2	6	-0.8	3	0.4	26
79.466	244.7	0.19	2	5	+0.1	3	0.0	26

79.439	242.8	0.21	3n	0.2	26-Inch

Baize, 1952: +7.6, +0.01.

8940 STF 1758 13 32.9 +49 08

86.427	296.0	3.40	2	7	-0.4	3	0.2	26
86.449	296.2	3.64	2	7	-0.2	3	0.2	26
86.460	295.4	3.44	2	6	-0.1	3	0.1	26
86.463	295.1	3.52	2	7	-0.1	3	0.1	26

86.450	295.7	3.50	4n	0.2	26-Inch

RST 2853 13 33.2 -54 28

80.243	95.0	0.22	2	7	+0.6	3	0.0	36
80.249	83.0	0.23	2	7	+0.5	3	0.2	36

80.246	89.0	0.22	2n	0.2	36-Inch

8943 A 1095 13 33.6 +29 44

86.422	263.2	0.41	2	6	-0.1	3	0.5	26
86.427	263.2	0.37	2	7	-0.4	3	0.4	26
86.449	262.1	0.40	2	6	-0.1	3	0.4	26

86.433	262.8	0.39	3n	0.4	26-Inch

Zulevic, 1969: -0.9, -0.02.

8946 A 1792 13 34.0 +08 47

79.425	310.3	0.56	2	7	0.0	3	0.6	26	
82.313	309.7	0.67	2	5	-0.1	3	0.8	26	
82.340	311.6	0.54	2	6	+0.1	4	0.4	26	
86.422	309.3	0.57	2	6	0.0	3	0.6	26	
86.427	310.5	0.55	2	7	-0.3	3	0.6	26	
86.449	313.2	0.64	2	6	0.0	3	0.5	26	
81.359	310.5	0.59	3n		0.6			26-Inch	
86.433	311.0	0.59	3n		0.6			26-Inch	

RST 3844 13 34.2 -16 24

80.246	46.4	0.19	2	6	0.0	3		36	
80.254	31.5	0.21	2	7	+0.2	3	0.0	36	
80.250	39.0	0.20	2n		0.0			36-Inch	

8949 STF 1757 13 34.3 -00 19

77.374	113.5	2.38	2	4	0.0	3	1.2	26	
77.377	112.6	2.46	2	3	-0.3	3	1.0	26	
77.423	113.4	2.37	2	6	0.0	3	0.8	26	
77.391	113.2	2.40	3n		1.0			26-Inch	

Heintz, 1956: +0.4, +0.16.

8950 BU 114 13 34.3 -08 37

83.173	162.9	1.36	2	5	+0.2	2	0.3	60	
83.176	163.8	1.32	2	5	+0.2	2	0.4	60	
83.184	161.6	1.28	2	6	+0.5	2	0.3	60	
83.178	161.6	1.28	3n		0.3			60-Inch	

8954 BU 932 13 34.7 -13 13

80.224	49.7	0.39	2	5	+0.8	3	0.5	60	
80.232	50.7	0.29	2	7	+0.1	3	0.5	60	
83.173	49.2	0.33	2	6	+0.3	2	0.4	60	
83.184	49.6	0.27	2	7	+0.6	2	0.5	60	
80.228	50.2	0.34	2n		0.5			60-Inch	
83.178	49.4	0.30	2n		0.4			60-Inch	

Heintz, 1969: +4.0, 0.00; +1.5, -0.05.

8962 DAW 108 13 36.2 -29 40

80.246	310.2	0.81	2	6	+0.1	3	0.3	36	
80.246	310.2	0.81	1n		0.3			36-Inch	

I 221 13 36.8 -32 25

80.227	121.4	0.68	2	5	+0.4	3	1.0	60	
80.232	121.4	0.67	2	6	+0.7	3	0.4	60	
80.230	121.4	0.68	2n		0.7			60-Inch	

I 365 13 37.2 -61 42

80.240	169.6	0.29	2	7	+0.2	3	0.3	36	
80.243	174.0	0.32	2	7	+0.6	3	0.2	36	
80.246	172.5	0.35	2	4	+0.5	3		36	
83.151	157.7	0.40	2	7	+0.6	3		36	
83.159	161.3	0.30	2	6	+0.9	3	0.2	36	
80.243	172.0	0.32	3n		0.2			36-Inch	
83.155	159.5	0.35	2n		0.2			36-Inch	

Abrami, 1952: -0.7, -0.03; +0.3, -0.01.

8974 STF 1768 13 37.5 +36 17

82.313	102.2	1.83	2	6	-0.1	3	1.4	26	
82.327	102.6	1.74	2	5	-0.2	3	1.5	26	
82.346	101.4	1.69	2	7	-0.2	3	1.7	26	
82.360	101.9	1.94	2	5	-0.2	3	1.4	26	
86.427	100.8	1.68	2	8	-0.1	3	2.4	26	
86.449	104.0	1.86	2	6	-0.4	3	1.8	26	
86.460	101.2	1.76	2	7	-0.4	3	1.8	26	
86.463	102.4	1.71	2	7	-0.2	3	1.7	26	
82.336	102.0	1.80	4n		1.5			26-Inch	
86.450	102.1	1.75	4n		1.9			26-Inch	

Wierzbinski, 1955: -1.3, -0.03;
-0.2, -0.09.

8978 BU 934 13 37.6 +50 27

76.262	265.8	1.23	2	5	0.0	3	0.1	26	
76.405	263.3	1.35	2	6	-0.1	3	0.1	26	
77.133	266.0	1.11	2	7	0.0	3	0.0	26	
77.404	266.6	1.31	2	5	-0.2	3	0.0	26	
76.801	265.4	1.25	4n		0.0			26-Inch	

8979 STF 1770 13 37.7 +50 42

76.262	123.7	1.65	2	5	0.0	3	1.3	26	
76.405	121.6	1.70	3	7	0.0	3	1.4	26	
77.133	123.6	1.68	2	7	0.0	3	1.2	26	
77.404	122.8	1.78	2	5	-0.1	3	1.3	26	
76.801	122.9	1.70	4n		1.3			26-Inch	

SEE 184 13 37.8 -35 04

80.227	302.9	3.12	2	5	+0.5	3	2.0	60	
80.232	303.0	3.16	2	5	+0.4	3	1.6	60	
80.230	303.0	3.14	2n		1.8			60-Inch	

FIN 214 13 38.4 -61 20

83.151	126.1	0.70	2	6	+0.8	3	0.5	36	
83.159	128.5	0.63	2	7	+1.0	3	0.6	36	
83.155	127.3	0.66	2n		0.6			36-Inch	

8986 HU 645 13 39.0 +21 27

82.313	31.1	0.50	2	5	0.0	3		26
82.327	21.5	0.68	2	5	-0.1	3		26
82.346	24.7	0.70	2	6	-0.2	3	0.2	26
82.329	25.8	0.63	3n		0.2			26-Inch

8987 BU 612 13 39.5 +10 45

79.425	174.9	0.18	2	6	0.0	3		26
79.466	167.0	0.23	1	6	+0.1	3	0.0	26
79.488	167.6	0.24	4	5	+0.8	3	0.0	26
82.346	196.4	0.34	2	6	-0.2	3	0.0	26
82.360	198.7	0.29	2	5	+0.1	3	0.0	26
86.422	216.9	0.34	2	7	0.0	3	0.0	26
86.427	213.1	0.35	2	7	-0.2	3	0.0	26
86.449	221.3	0.30	2	7	0.0	3	0.0	26
86.460	215.4	0.33	2	6	-0.3	3	0.1	26
79.460	169.8	0.22	3n		0.0			26-Inch
82.353	197.6	0.32	2n		0.0			26-Inch
86.440	216.7	0.33	4n		0.0			26-Inch

Churms, 1954: -11.6, -0.01; -2.4, +0.01.
- 1.9, 0.00.
Danjon, 1956: -13.7, +0.02; -4.3, +0.03.
- 2.1, +0.02.

9004 STF 3081 13 45.1 -11 50

82.313	68.6	2.16	2	5	0.0	3	0.1	26
82.327	69.5	2.18	2	4	-0.2	3	0.2	26
82.340	70.6	2.07	2	5	+0.2	4	0.6	26
82.327	69.6	2.14	3n		0.3			26-Inch

RST 2864 13 45.1 -18 05

80.224	119.8	0.30	2	5	+0.8	3	0.4	60
80.232	113.6	0.35	2	5	+0.6	3	0.0	60
80.228	116.7	0.32	2n		0.2			60-Inch

This K5 dwarf of sizeable proper motion has exhibited only slow angular increase.

9013 BU 115 13 45.4 +09 04

82.346	253.0	1.58	2	6	-0.1	3	2.4	26
85.354	257.0	1.66	2	6	-0.1	3	2.0	26
86.408	253.7	1.71	2	6	+0.3	3	2.5	26
84.703	254.6	1.65	3n		2.3			26-Inch

9019 STF 1781 13 46.1 +05 07

77.133	79.0	0.25	2	7	-0.1	3	0.3	26
77.404	75.8	0.24	2	5	-0.2	3	0.2	26
77.423	78.3	0.25	2	6	0.0	3	0.4	26
77.472	85.3	0.25	2	4	+0.2	3	0.3	26
78.398	87.4	0.24	2	5	0.0	3	0.5	26
78.469	88.8	0.25	2	8	+0.2	3	0.4	26
79.425	101.1	0.28	2	6	-0.1	3	0.2	26
79.466	99.7	0.29	2	6	+0.1	3	0.3	26
80.405	106.1	0.30	2	5	0.0	3		26
80.446	108.7	0.23	2	4	-0.3	4		26
80.449	107.4	0.23	2	5	-0.2	3	0.3	26
82.313	124.6	0.28	2	5	0.0	3		26
82.327	121.1	0.26	2	5	-0.1	3		26
82.340	123.8	0.25	2	5	+0.1	4		26
82.346	121.4	0.31	2	6	-0.1	3	0.2	26
85.354	140.7	0.39	2	6	-0.1	3	0.2	26
86.408	142.7	0.40	2	7	+0.2	3	0.2	26
86.422	143.7	0.38	2	6	0.0	3	0.5	26
86.427	143.5	0.41	2	7	-0.2	3	0.3	26
77.358	79.6	0.25	4n		0.3			26-Inch
78.940	94.2	0.27	4n		0.3			26-Inch
80.433	107.4	0.25	3n		0.3			26-Inch
82.332	122.7	0.28	4n		0.2			26-Inch
86.153	142.7	0.40	4n		0.3			26-Inch

Heintz, 1985: +2.0, -0.02; +0.8, -0.01;
+0.4, -0.05; +1.1, -0.05;
+0.6, -0.03.
Replaces the 1976 version.

9026 A 2492 13 47.8 +01 20

76.405	26.5	0.78	2	6	-0.1	3	0.2	26
77.404	28.4	0.73	1	5	-0.2	3	0.0	26
77.423	26.1	0.82	1	6	0.0	3	0.3	26
77.077	27.0	0.78	3n		0.2			26-Inch

9029 A 13 13 48.5 -05 26

77.404	167.1	1.12	1	4	-0.1	3	1.2	26
77.423	165.0	1.06	1	5	0.0	3	0.8	26
78.398	164.8	1.04	1	5	-0.1	3	0.8	26
80.246	162.5	1.01	2	5	+0.1	3	1.2	36
80.251	164.6	1.15	1	5	+0.2	3	1.0	36
80.254	164.5	1.17	2	7	0.0	3	0.8	36
77.742	165.6	1.07	3n		0.9			26-Inch
80.250	163.9	1.11	3n		1.0			36-Inch

9031 STF 1785 13 49.1 +26 59

77.133	157.8	3.35	2	8	0.0	3	0.3	26
77.404	158.9	3.41	2	6	0.0	3	0.4	26
77.423	157.5	3.39	2	6	+0.1	3	0.3	26
77.320	158.1	3.38	3n		0.3			26-Inch

Strand, 1955: +0.6, -0.01.

	I 1236		13 50.6 -41 01						
80.227	165.0	0.66	2	5	+0.4	3		60	
80.232	163.3	0.70	2	4	+0.7	3	0.2	60	
80.230	164.2	0.68	2n		0.2			60-Inch	
9037	BU 613		13 51.4 +34 41						
77.133	151.5	0.66	2	7	0.0	3	0.0	26	
77.404	150.6	0.68	1	6	0.0	3	0.0	26	
77.423	152.0	0.73	2	6	+0.2	3	0.0	26	
77.320	151.4	0.69	3n		0.0			26-Inch	
	BU 343		13 52.0 -31 37						
80.240	27.5	0.77	2	8	+0.6	3	1.0	36	
80.243	33.2	0.61	2	7	+1.0	3	0.6	36	
80.249	29.5	0.49	2	7	+0.8	3	1.1	36	
80.244	30.1	0.62	3n		0.9			36-Inch	

More than a quadrant has been described.

	HWE 28		13 53.6 -35 40						
80.240	304.1	0.94	2	8	+0.5	3	0.2	36	
80.243	305.8	0.92	2	7	+0.8	3	0.3	36	
80.246	301.8	0.99	2	5	+0.3	3	0.1	36	
83.151	302.6	0.90	2	7	+0.6	3	0.2	36	
83.155	302.3	0.91	2	7	+0.9	3	0.4	36	
80.243	303.9	0.95	3n		0.2			36-Inch	
83.155	302.4	0.90	2n		0.3			36-Inch	

Heintz, 1969: -1.8, +0.17; -4.7, +0.09.

	RST 3852		13 53.9 -14 40						
80.254	149.7	0.20	2	7	0.0	3		36	
83.159	144.5	0.15	2	7	+0.4	3		36	
83.170	141.4	0.16	2	6	+0.2	2		60	
83.173	143.4	0.14	2	6	0.0	2		60	
81.706	147.1	0.18	2n					36-Inch	
83.172	142.4	0.15	2n					60-Inch	
	I 401		13 55.0 -42 35						
80.246	288.6	0.29	2	5	+0.4	3	0.3	36	
80.249	288.2	0.24	2	8	+0.3	3	0.2	36	
80.254	291.2	0.26	2	7	+0.2	3		36	
80.250	289.3	0.26	3n		0.2			36-Inch	
9060	STT 273		13 56.3 +05 18						
80.449	110.5	0.92	2	5	0.0	3	0.4	26	
82.313	111.4	1.06	2	5	0.0	3	0.0	26	
82.327	110.7	1.03	2	4	-0.2	3	0.5	26	
81.696	110.9	1.00	3n		0.3			26-Inch	
	k 227		13 56.4 -54 07						
80.240	7.0	1.92	2	8	+0.5	3	0.7	36	
80.243	5.1	1.78	2	6	+0.9	3	0.8	36	
80.249	7.0	1.78	2	8	+0.4	3	1.0	36	
80.244	6.4	1.83	3n		0.8			36-Inch	
9066	STF 1792		13 57.1 +12 27						
80.405	291.7	2.03	2	5	-0.1	3	0.6	26	
80.446	292.5	2.00	2	5	-0.3	4	0.8	26	
80.449	293.2	2.22	2	4	-0.2	3	0.8	26	
80.433	292.5	2.08	3n		0.7			26-Inch	
	FIN 370		13 57.4 -62 29						
80.224	63.8	0.15	2	5	+0.7	3		60	
80.227	61.8	0.18	3	5	+0.4	3	0.0	60	
80.226	62.8	0.16	2n		0.0			60-Inch	

No measures since Finsen's in 1967. One revolution has been completed. Period 20 years.

9071	A 1614		13 57.6 +52 00						
80.405	312.2	1.33	2	5	0.0	3	0.1	26	
80.446	312.4	1.22	2	5	-0.6	4	0.1	26	
80.449	316.8	1.21	2	4	-0.4	3	0.0	26	
86.427	310.2	1.32	2	7	-0.3	3		26	
86.449	310.1	1.31	2	7	-0.2	3	0.0	26	
86.460	311.1	1.34	2	6	-0.4	3	0.2	26	
86.463	310.6	1.26	2	7	-0.3	3	0.1	26	
80.433	313.8	1.25	3n		0.1			26-Inch	
86.450	310.5	1.31	4n		0.1			26-Inch	

Mourao, 1963: +0.4, -0.02; -0.8, -0.04.
Quadrant reversed.

9070	A 2586		13 57.7 -02 47						
83.159	342.1	0.27	2	6	+0.5	3	0.4	36	
83.170	339.3	0.27	2	5	+0.2	2	0.5	60	
83.173	340.4	0.29	2	5	+0.2	2	0.4	60	
83.159	342.1	0.27	1n		0.4			36-Inch	
83.172	340.4	0.29	2n		0.4			60-Inch	
	RST 671		13 57.9 -48 43						
80.224	169.8	0.46	2	5	+1.0	3		60	
80.227	171.2	0.46	2	5	+0.6	3	0.4	60	
80.226	170.5	0.46	2n		0.4			60-Inch	
	RST 670		13 57.9 -49 05						
80.254	128.1	0.17	2	8	+0.7	3	0.0	36	
80.254	128.1	0.17	1n		0.0			36-Inch	

FIN 218 13 58.0 -62 57

80.224	316.8	3.19	2	5	+0.9	3	1.8	60
80.227	317.0	3.03	2	5	+0.5	3	1.8	60
80.226	316.9	3.11	2n		1.8		60-Inch	

9073 A 2167 13 58.4 +02 14

79.425	144.6	0.20	3	6	-0.2	3		26
79.466	148.3	0.18	1	6	0.0	3	0.0	26
86.422	134.6	0.19	2	6	0.0	3		26
86.449	132.4	0.17	2	6	0.0	3		26
86.463	132.5	0.20	2	6	-0.1	3		26
79.446	146.4	0.19	2n		0.0		26-Inch	
86.445	133.2	0.19	3n				26-Inch	

Valbousquet, 1981: -9.0, +0.04;
+0.9, +0.05.

9078 STF 1794 13 59.8 +19 53

86.460	128.2	1.99	2	5	-0.1	3	0.2	26
86.463	125.6	1.93	2	6	0.0	3	0.0	26
86.468	126.8	2.00	2	5	-0.2	3	0.1	26
86.482	127.2	1.98	2	6	0.0	3	0.2	26
86.468	127.0	1.98	4n		0.1		26-Inch	

9080 A 687 14 00.2 +28 26

78.398	309.3	1.04	2	5	-0.2	3	0.1	26
79.425	309.4	1.19	2	6	-0.1	3	0.1	26
79.466	309.0	1.14	2	5	+0.1	3	0.1	26
79.096	309.2	1.12	3n		0.1		26-Inch	

9084 A 569 14 01.2 +25 22

76.405	132.7	0.59	2	7	-0.1	3	0.6	26
77.423	132.6	0.56	2	5	0.0	3	0.5	26
78.398	131.8	0.49	2	5	0.0	3	0.6	26
77.409	132.4	0.55	3n		0.6		26-Inch	

9089 A 1097 14 02.0 +57 13

76.405	214.8	0.31	1	6	0.0	3	0.3	26
77.133	220.7	0.33	1	8	-0.1	3	0.2	26
77.404	218.2	0.30	2	5	0.0	3	0.3	26
80.405	220.5	0.33	1	5	0.0	3	0.6	26
80.446	219.1	0.34	2	4	-0.5	4	0.2	26
80.449	225.0	0.33	2	4	-0.5	3	0.3	26
82.340	227.7	0.35	2	6	0.0	4	0.2	26
82.346	225.6	0.36	2	5	-0.3	3	0.2	26
82.360	226.5	0.34	2	5	-0.1	3	0.3	26
86.427	226.8	0.39	2	7	-0.2	3	0.2	26
86.449	227.2	0.36	2	6	-0.2	3	0.4	26
86.460	226.0	0.43	2	6	-0.2	3	0.2	26
86.463	230.6	0.36	2	5	-0.2	3		26
76.981	217.9	0.31	3n		0.3		26-Inch	
80.433	221.5	0.33	3n		0.4		26-Inch	
82.349	226.6	0.35	3n		0.2		26-Inch	
86.450	227.6	0.38	4n		0.2		26-Inch	

Janova, 1960: +1.1, -0.07; -0.2, -0.06;
+2.2, -0.04; -2.3, -0.01.

HEI 65 14 02.8 +14 17

85.354	114.2	0.47	2	6	-0.2	3	0.5	26
86.422	120.9	0.43	2	7	0.0	3	0.5	26
86.449	116.3	0.51	2	6	0.0	3	0.5	26
86.075	117.1	0.47	3n		0.5		26-Inch	

BU 1197 14 03.0 -31 41

80.240	217.3	2.32	2	8	+0.6	3	1.4	36
80.243	216.0	2.25	2	7	+1.0	3	1.4	36
80.246	218.0	2.23	4	5	+0.5	3	1.3	36
80.243	217.1	2.27	3n		1.4		36-Inch	

9091 HWE 29 14 03.4 +05 57

76.342	240.6	1.20	2	7	0.0	3	0.3	26
76.405	238.6	1.25	2	6	-0.2	3	0.0	26
77.133	241.6	1.18	2	7	0.0	3	0.2	26
76.627	240.3	1.21	3n		0.2		26-Inch	

COO 164 14 03.7 -46 18

80.246	138.4	2.88	2	4	+0.4	3	0.4	36
80.249	138.8	2.86	2	8	+0.3	3	0.4	36
80.251	137.8	2.84	2	6	+0.6	3	0.2	36
80.249	138.3	2.86	3n		0.3		36-Inch	

9094 BU 1270 14 03.8 +08 29

77.133	2.5	0.23	1	7	+0.1	3	0.0	26
77.423	2.9	0.23	1	5	+0.1	3	0.0	26
77.472	357.9	0.21	1	6	0.0	3	0.0	26
80.405	22.2	0.17	2	5	+0.1	3		26
80.446	22.1	0.18	1	4	-0.3	4	0.0	26
80.449	18.7	0.16	1	5	-0.2	3	0.0	26
77.343	1.1	0.22	3n		0.0		26-Inch	
80.433	21.0	0.17	3n		0.0		26-Inch	

Heintz, 1973: -2.5, -0.02; -1.3, -0.03.

9106 BU 938 14 06.3 -26 35

80.232	317.8	0.16	2	6	+0.6	3		60
83.170	313.9	0.22	2	6	+0.3	2	0.2	60
83.173	311.9	0.21	2	6	+0.1	2		60
83.184	316.8	0.21	2	7	+0.2	2		60
80.232	317.8	0.16	1n				60-Inch	
83.176	314.2	0.21	3n		0.2		60-Inch	

SLR 19 14 07.7 -49 53

80.227	304.8	1.38	2	5	+0.6	3	0.2	60
80.230	306.2	1.40	2	6	+1.2	3	0.2	60
80.228	305.5	1.39	2n		0.2		60-Inch	

Erceg and Olevic, 1985: -2.6, +0.01.

9119 A 2065 14 08.4 +16 44

80.449	338.5	1.62	1	5	0.0	3	1.0	26
82.313	343.6	1.64	2	6	-0.1	3	1.5	26
82.346	338.4	1.71	2	6	-0.1	3	1.2	26
81.703	340.2	1.66	3n		1.2		26-Inch	

9127 STT 275 14 09.2 +07 24

86.460	354.1	5.08	1	5	-0.1	3	3.2	26
86.463	352.5	4.90	1	5	-0.1	3	3.2	26
86.468	354.1	4.98	1	5	-0.3	3	3.2	26
86.482	354.1	4.80	1	6	0.0	3	3.3	26
86.468	353.7	4.94	4n		3.3		26-Inch	

9159 STT 278 14 12.2 +44 11

82.313	135.6	0.30	2	6	0.0	3	0.0	26
82.340	137.6	0.30	2	6	0.0	4	0.4	26
82.346	138.6	0.28	2	5	-0.3	3		26
82.360	134.4	0.29	2	5	-0.1	3		26
85.354	131.6	0.33	2	5	-0.2	3		26
86.422	128.0	0.28	2	6	-0.1	3		26
86.427	129.6	0.35	2	6	-0.1	3		26
86.449	126.8	0.29	2	6	0.0	3	0.0	26
82.340	136.6	0.29	4n		0.2		26-Inch	
86.163	129.0	0.31	4n		0.0		26-Inch	

Heintz, 1976: +2.4, +0.01; +2.6, +0.05.
Quadrant reversed.

9158 STT 277 14 12.5 +28 43

85.354	40.6	0.33	2	6	-0.3	3		26
86.422	36.1	0.28	2	6	0.0	3	0.2	26
86.427	38.0	0.34	2	5	0.0	3		26
86.449	44.3	0.28	2	7	-0.1	3	0.0	26
86.163	39.8	0.31	4n		0.1		26-Inch	

9156 SEE 202 14 12.9 -30 00

80.232	116.6	1.16	2	5	+0.6	3	0.3	60
80.232	116.6	1.16	1n		0.3		60-Inch	

9167 STF 1820 14 13.1 +55 20

82.313	111.6	2.58	2	6	+0.1	3	0.3	26
82.327	111.7	2.62	2	4	0.0	3	0.3	26
82.340	112.8	2.46	2	7	-0.1	4	0.4	26
82.327	112.8	2.55	3n		0.3		26-Inch	

Hopmann, 1964: +0.9, +0.28.

FIN 220 14 13.7 -58 44

80.227	38.8	0.63	1	4	+0.6	3	0.3	60
80.230	39.8	0.66	1	6	+1.2	3	0.5	60
80.228	39.3	0.64	2n		0.4		60-Inch	

Slow angular decrease.

9174 STF 1816 14 13.9 +29 06

86.460	91.0	0.67	2	5	0.0	3	0.3	26
86.463	91.1	0.72	2	5	-0.1	3	0.0	26
86.468	89.6	0.68	2	6	-0.2	3	0.0	26
86.464	90.6	0.69	3n		0.1		26-Inch	

Closing in with little angular change.

9170 BU 939 14 14.1 -08 31

76.342	73.3	0.28	2	6	0.0	3	0.1	26
76.405	72.2	0.27	2	6	0.0	3	0.1	26
77.423	72.6	0.30	2	6	0.0	3	0.3	26
80.240	69.4	0.36	2	8	+0.6	3	0.2	36
80.246	69.0	0.37	2	5	+0.5	3	0.2	36
80.251	69.0	0.36	2	6	-0.1	3	0.0	36
82.346	74.8	0.41	2	4	-0.2	3		26
76.723	72.7	0.28	3n		0.1		26-Inch	
80.246	69.1	0.36	3n		0.1		36-Inch	
82.346	74.8	0.41	1n				26-Inch	

9177 STF 1817 14 14.2 +26 42

86.468	354.8	0.51	2	5	-0.2	3	0.6	26
86.482	350.8	0.51	2	6	0.0	3	0.3	26
86.504	351.3	0.46	2	6	+0.3	3	0.4	26
86.485	352.3	0.49	3n		0.4		26-Inch	

9182 STF 1819 14 15.4 +03 08

76.342	251.3	0.82	2	7	0.0	3	0.3	26
76.405	250.6	0.83	2	5	0.0	3	0.1	26
77.133	250.9	0.81	2	7	0.0	3	0.2	26
77.404	251.6	0.87	2	4	+0.2	3	0.2	26
78.469	247.6	0.84	2	7	-0.1	3	0.1	26
78.491	248.0	0.78	2	6	+0.3	3	0.3	26
78.510	247.2	0.78	2	6	+0.9	3	0.3	26
82.346	239.6	0.80	2	5	-0.1	3	0.1	26
82.360	240.0	0.79	2	5	0.0	3	0.3	26
86.468	226.6	0.82	2	5	-0.1	3	0.1	26
86.482	227.7	0.86	2	6	+0.1	3	0.4	26
86.504	229.8	0.86	2	6	+0.2	3	0.2	26
76.821	251.1	0.83	4n		0.2		26-Inch	
78.490	247.6	0.80	3n		0.2		26-Inch	
82.353	239.8	0.80	2n		0.2		26-Inch	
86.485	228.0	0.85	3n		0.2		26-Inch	

Houser, 1987: +1.3, -0.05; +1.4, -0.08;
+2.0, -0.07; -0.9, -0.03.

9185 A 1101 14 15.8 +10 18

76.342	240.0	0.21	2	7	0.0	3	0.5	26
76.405	239.2	0.25	2	6	0.0	3	0.4	26
80.405	226.1	0.30	2	5	0.0	3	0.5	26
80.449	232.5	0.27	2	5	-0.1	3	0.6	26
76.374	239.6	0.23	2n		0.4		26-Inch	
80.427	229.3	0.28	2n		0.6		26-Inch	

Baize, 1953: -3.3, -0.01; -1.8, 0.00.
Baize, 1983 (1): +1.0, -0.03; +0.4, -0.02.
(2): -3.6, +0.01; -1.9, 0.00.

9194 A 1616 14 16.0 +52 47

80.449	91.8	1.57	2	5	0.0	3	0.5	26
82.313	92.3	1.52	2	5	+0.1	3	0.3	26
82.340	93.6	1.53	2	7	-0.1	4	0.3	26
81.701	92.6	1.54	3n		0.2		26-Inch	

9186 HU 138 14 16.0 -07 04

80.240	356.8	0.38	2	8	+0.5	3	0.2	36
80.246	358.2	0.32	2		+0.6	3		36
80.251	356.8	0.37	1	5	+0.1	3	0.0	36
83.170	1.4	0.33	1	5	+0.3	2	0.6	60
83.173	357.7	0.32	2	5	+0.1	2	0.5	60
83.184	355.7	0.36	2	5	+0.1	2		60
86.422	355.9	0.42	1	6	0.0	3	0.0	26
86.449	359.7	0.53	1	5	0.0	3	0.5	26
86.463	2.6	0.44	1	5	-0.1	3	0.3	26
80.246	357.3	0.36	3n		0.2		36-Inch	
83.176	358.3	0.34	3n		0.6		60-Inch	
86.445	359.4	0.44	3n		0.3		26-Inch	

Eggen, 1967: -4.0, -0.03; -6.9, -0.07;
-9.8, +0.01.
Baize, 1983: +5.6, -0.05; +2.9, -0.09;
+0.2, 0.00.

9195 HU 1266 14 16.5 +33 32

77.133	153.2	0.24	2	7	0.0	3	0.0	26
77.423	156.9	0.18	3	6	+0.1	3	0.0	26
77.278	155.0	0.21	2n		0.0		26-Inch	

Baize, 1958: -13.7, -0.01.

9200 HU 139 14 17.2 -11 39

83.170	321.6	0.17	2	5	+0.4	2		60
83.184	322.6	0.18	2	5	+0.2	2		60
83.177	322.1	0.18	2n				60-Inch	

9211 BU 1272 14 17.8 +48 45

80.449	134.6	1.38	2	4	0.0	4	1.2	26
82.313	136.3	1.32	2	5	+0.1	4	1.0	26
82.327	135.2	1.42	2	4	0.0	3	0.8	26
81.696	135.4	1.37	3n		1.0		26-Inch	

9217 BU 1273 14 18.5 +47 55

78.469	183.7	1.32	2	7	-0.1	3	1.2	26
79.466	182.1	1.21	2	5	-0.1	3	1.2	26
80.405	182.4	1.12	2	4	0.0	3	1.0	26
79.447	182.7	1.22	3n		1.1		26-Inch	

9215 STF 1832 14 18.8 +03 53

82.346	147.3	0.40	2	5	+0.1	3	0.2	26
85.354	150.2	0.37	2	5	-0.2	3		26
83.850	148.8	0.38	2n		0.2		26-Inch	

9229 STF 1834 14 20.3 +48 31

82.327	102.5	1.41	2	4	0.0	3		26
82.340	103.5	1.30	2	5	0.0	4	0.2	26
82.346	103.4	1.31	2	5	-0.1	3	0.2	26
82.338	102.5	1.34	3n		0.2		26-Inch	

van den Bos, 1936: -1.4, +0.09.

9230 ES 19 14 20.5 +51 41

82.346	49.8	1.77	2	6	0.0	3	1.4	26
85.354	50.6	1.44	2	5	-0.3	3	1.2	26
83.850	50.2	1.60	2n		1.3		26-Inch	

COO 168 CD 14 20.9 -42 26

80.251	203.7	1.63	2	6	+0.4	3	0.1	36
80.254	202.7	1.75	2	7	+0.4	3	0.2	36
80.252	203.2	1.69	2n		0.2		36-Inch	

9232 HU 902 14 22.0 -18 48

83.170	241.9	1.36	2	6	+0.4	3	1.5	60
83.173	240.3	1.29	2	5	+0.1	3	1.2	60
83.172	241.1	1.32	2n		1.4		60-Inch	

R 244 14 22.6 -48 19

80.251	122.0	4.61	2	7	+0.4	3	2.8	36
80.254	123.5	4.60	2	7	+0.5	3	3.5	36
80.252	122.8	4.60	2n		3.2		36-Inch	

9245 A 1104 14 23.1 +07 30

86.422	259.2	0.51	2	6	0.0	3	0.1	26
86.449	258.6	0.56	2	6	0.0	3	0.3	26
86.460	264.1	0.66	2	5	-0.1	3		26
86.463	257.1	0.63	2	5	-0.1	3	0.2	26
86.448	259.8	0.59	4n		0.2		26-Inch	

FIN 221 14 23.2 -63 02

80.224	251.9	3.00	2	5	+0.7	3	2.0	60
80.227	252.4	2.99	2	4	+0.6	3	2.5	60
80.226	252.2	3.00	2n		2.2		60-Inch	

This is the only measure since discovery.

9249 A 149 14 23.3 +47 36

80.405	133.5	0.72	2	5	0.0	3	0.3	26
80.449	131.2	0.67	2	4	0.0	3	0.2	26
82.313	131.8	0.68	2	5	+0.1	3	0.2	26
81.056	132.2	0.69	3n		0.2			26-Inch

9247 BU 1111 BC 14 23.4 +08 27

76.342	2.8	0.22	1	6	0.0	3	0.2	26
76.405	4.8	0.23	1	6	0.0	3	0.4	26
77.423	9.8	0.23	1	6	0.0	3	0.3	26
79.425	19.4	0.26	1	7	0.0	3	0.2	26
79.466	23.9	0.27	1	6	+0.1	3	0.2	26
79.488	23.4	0.29	1	5	+0.3	3	0.3	26
86.422	54.2	0.29	2	6	0.0	3		26
86.427	59.6	0.25	2	6	-0.1	3	0.3	26
86.449	57.8	0.23	2	6	-0.1	3		26
86.460	54.4	0.24	2	5	0.0	3		26
76.723	5.8	0.23	3n		0.3			26-Inch
79.460	22.2	0.27	3n		0.2			26-Inch
86.440	56.5	0.25	4n		0.3			26-Inch

Couteau, 1958: -4.0, -0.04; -0.9, -0.01;
-2.1, +0.01.

9256 STN 31 14 25.2 -28 08

80.232	270.5	0.64	2	5	+0.6	3	0.4	60
80.251	273.0	0.60	2	5	+0.1	3	0.4	36
83.173	269.4	0.48	2	4	+0.2	2	0.5	60
83.184	267.2	0.66	2	7	+0.2	2	0.8	60
80.232	270.5	0.64	1n		0.4			60-Inch
80.251	273.0	0.60	1n		0.4			36-Inch
83.178	268.3	0.57	2n		0.6			60-Inch

RST 704 14 26.3 -49 46

80.251	154.5	2.20	2	6	+0.5	3	1.7	36
80.254	154.9	2.18	2	7	+0.5	3	2.2	36
80.252	154.7	2.19	2n		2.0			36-Inch

9264 A 2069 14 26.7 +16 25

86.468	254.9	0.19	2	5	-0.2	3	0.2	26
86.482	263.7	0.22	2	6	0.0	3	0.0	26
86.504	258.4	0.20	2	5	+0.3	3		26
86.485	259.0	0.20	3n		0.1			26-Inch

Couteau, 1986: +7.9, +0.01.

I 1243 AB 14 27.7 -41 13

80.251	330.2	0.27	2	5	+0.6	3	0.0	36
80.254	321.8	0.22	2	7	+0.6	3	0.0	36
80.252	326.0	0.24	2n		0.0			36-Inch

COO 171 ABXC

80.251	142.2	3.80	2	5	+0.7	3	0.2	36
80.254	143.4	3.69	2	7	+0.7	3	0.5	36
80.252	142.9	3.74	2n		0.4			36-Inch

9283 BU 462 14 30.0 -03 44

76.342	142.5	2.10	2	7	0.0	3	0.1	26
76.405	142.5	2.10	2	6	0.0	3	0.0	26
77.404	142.8	2.20	1	4	0.0	3	0.2	26
77.423	143.1	2.15	3	6	0.0	3	0.1	26
76.894	142.7	2.14	4n		0.1			26-Inch

RST 4529 14 31.1 -05 49

83.170	152.3	0.29	2	6	+0.4	2	0.0	60
83.173	152.4	0.30	2	4	+0.2	2		60
83.184	149.9	0.22	2	6	+0.1	2	0.4	60
83.176	151.5	0.27	3n		0.2			60-Inch

Heintz, 1981 (1): -8.7, -0.01.
(2): -6.8, -0.02.
Quadrant reversed.

9290 I 1246 14 31.4 -25 20

80.240	22.6	0.40	2	8	+0.5	3	0.3	36
80.243	26.6	0.49	2	7	+0.6	3	0.3	36
80.242	24.6	0.44	2n		0.3			36-Inch

A considerable angular increase. Neglected for 30 years, 1930-1960.

9301 A 570 14 32.3 +26 41

77.133	66.3	0.22	2	7	-0.1	3	0.3	26
77.423	63.0	0.16	2	6	+0.1	3	0.0	26
78.491	45.6	0.21	2	6	0.0	3	0.2	26
78.510	44.2	0.22	2	7	+0.5	3	0.3	26
78.512	38.8	0.19	2	6	+0.3	3	0.3	26
78.516	37.1	0.22	2	7	+0.3	3	0.3	26
77.278	64.6	0.19	2n		0.1			26-Inch
78.507	41.4	0.21	4n		0.3			26-Inch

van den Bos, 1949: +3.8, -0.01;
-5.9, +0.01.

9297 HU 140 14 32.5 -13 01

80.246	192.7	1.28	2	4	+0.4	3	0.5	36
80.251	193.6	1.24	2	6	-0.2	3	0.6	36
80.248	193.2	1.26	2n		0.6			36-Inch

9315 STF 1860 14 33.9 +55 14

82.327	109.7	0.95	2	4	0.0	3	1.0	26
82.340	110.2	1.18	2	5	-0.2	4	0.5	26
82.346	110.3	1.13	2	6	-0.2	3	1.2	26
82.338	110.1	1.09	3n		0.9			26-Inch

9309 A 2589 14 34.0 -05 07

76.342	208.1	0.88	1	6	+0.1	3	0.3	26
76.405	207.5	0.96	1	6	0.0	3	0.3	26
78.491	213.2	0.89	2	5	+0.1	3	0.2	26
77.079	209.6	0.91	3n		0.3			26-Inch

KUI 68 14 34.1 +32 33

86.422	322.4	26.14	2	6	-0.1	3	4.0	26
86.427	322.0	25.88	2	5	-0.2	3	4.2	26
86.460	322.0	26.08	2	5	-0.1	3	4.0	26
86.436	322.1	26.03	3n		4.0			26-Inch

Optical.

9317 HU 574 14 35.4 +19 16

86.422	105.3	0.19	2	7	0.0	3		26
86.463	111.8	0.24	2	6	-0.2	3		26
86.482	108.8	0.20	2	6	-0.1	3		26
86.456	108.6	0.21	3n					26-Inch

HJ 4687 14 35.6 -36 33

80.249	118.7	0.86	2	7	+0.2	3	0.2	36
80.251	118.6	0.87	2	5	+0.6	3	0.2	36
80.254	120.0	0.86	2	7	+0.6	3	0.3	36
80.251	119.1	0.86	3n		0.2			36-Inch

This pair needs attention as it closes in.

9318 BU 941 14 35.8 +00 15

79.466	165.5	0.26	1	5	0.0	3	0.0	26
82.313	161.3	0.28	2	5	0.0	3		26
82.346	157.5	0.30	2	5	-0.1	3		26
81.375	161.4	0.28	3n		0.0			26-Inch

FIN 223 14 36.7 -54 14

80.227	74.4	2.53	2	5	+0.5	3	2.0	60
80.230	75.2	2.49	2	5	+1.0	3	2.0	60
80.228	74.8	2.51	2n		2.0			60-Inch

The only measure since discovery.

9324 A 347 14 36.9 +48 13

79.425	277.7	0.49	2	7	0.0	3	0.3	26
79.466	274.9	0.47	2	5	-0.2	3	0.3	26
79.488	276.7	0.52	2	5	-0.1	3	0.4	26
79.460	276.4	0.49	3n		0.3			26-Inch

Baize, 1987: -0.5, -0.07.

9329 STF 1863 14 38.0 +51 35

79.425	71.8	0.63	2	7	0.0	3	0.3	26
79.466	71.1	0.68	2	5	-0.1	3	0.2	26
79.488	72.4	0.66	2	5	0.0	3	0.2	26
79.460	71.8	0.66	3n		0.2			26-Inch

9328 BU 226 14 38.9 -22 20

80.232	111.7	0.91	2	5	+0.5	3	0.2	60
83.172	112.3	0.61	2	4	+0.2	2		60
83.184	111.9	0.88	2	6	+0.1	2	0.2	60
82.196	112.0	0.80	3n		0.2			60-Inch

9340 STF 1867 14 40.8 +31 17

86.468	3.5	0.82	2	5	-0.3	3	0.3	26
86.482	4.0	0.82	2	6	0.0	3	0.4	26
86.504	2.5	0.95	2	5	+0.2	3	0.2	26
86.485	3.3	0.86	3n		0.3			26-Inch

RST 2917 14 41.1 -22 37

80.240	187.6	0.36	2	8	+0.5	3	0.7	36
80.243	192.8	0.34	2	7	+0.6	3	0.5	36
80.249	194.2	0.39	3	7	+0.2	3	1.0	36
80.244	191.5	0.36	3n		0.7			36-Inch

FIN 225 14 41.1 -53 35

80.224	116.0	2.05	2	4	+0.6	3	0.4	60
80.227	117.9	2.00	2	4	+0.6	3	0.4	60
80.226	117.0	2.02	2n		0.4			60-Inch

9343 STF 1865 14 41.2 +13 43

86.468	302.7	1.01	2	5	-0.2	3	0.2	26
86.482	306.6	1.02	2	5	-0.1	3	0.3	26
86.504	304.2	0.99	2	7	-0.3	3	0.3	26
86.537	304.9	1.03	2	4	+0.3	3	0.2	26
86.498	304.6	1.01	4n		0.2			26-Inch

Wierzbinski, 1956: -0.9, 0.00.

9350 STF 1871 14 41.4 +51 24

86.468	308.7	1.88	2	5	-0.2	3		26
86.482	308.6	1.84	2	7	-0.1	3	0.1	26
86.504	306.9	1.87	2	5	0.0	3	0.2	26
86.485	308.1	1.86	3n		0.2			26-Inch

HU 1510 14 41.7 -44 15

80.251	144.7	0.47	2	6	+0.6	3	0.3	36
80.254	146.4	0.54	2	6	+0.3	3	0.2	36
80.252	145.6	0.50	2n		0.2			36-Inch

9345 STF 1866 14 41.8 +09 31

77.133	22.4	0.78	1	7	-0.1	3	0.1	26	
77.472	24.0	0.62	2	4	0.0	3	0.0	26	
78.491	22.8	0.77	2	5	+0.2	3	0.2	26	
78.512	20.8	0.75	1	7	+0.3	3	0.2	26	
77.902	22.5	0.73	4n		0.1			26-Inch	

9352 HU 575 14 42.6 +19 29

77.133	6.0	0.53	1	7	0.0	3	0.3	26	
77.423	4.8	0.56	1	6	0.0	3	0.2	26	
77.472	4.8	0.46	1	5	0.0	3	0.0	26	
78.491	3.7	0.47	1	5	+0.2	3	0.3	26	
78.510	1.2	0.51	1	7	+0.4	3	0.2	26	
78.512	0.4	0.57	1	6	+0.4	3	0.3	26	
78.516	0.7	0.53	1	7	+0.3	3	0.2	26	
79.425	357.7	0.63	1	6	0.0	3	0.3	26	
79.466	356.5	0.54	1	6	0.0	3	0.3	26	
79.488	356.2	0.54	1	5	+0.1	3	0.3	26	
80.449	354.1	0.54	2	5	-0.2	3	0.4	26	
82.313	345.6	0.49	2	5	0.0	3	0.3	26	
82.346	349.4	0.41	2	5	0.0	3	0.3	26	
86.422	317.6	0.39	2	6	0.0	3	0.2	26	
86.449	305.7	0.38	2	5	+0.1	3	0.3	26	
86.463	309.5	0.35	2	6	-0.2	3		26	
77.343	5.2	0.52	3n		0.2			26-Inch	
78.507	1.5	0.52	4n		0.2			26-Inch	
79.460	356.8	0.57	3n		0.3			26-Inch	
81.703	349.7	0.48	3n		0.3			26-Inch	
86.445	310.9	0.37	3n		0.2			26-Inch	

Muller, 1952: -4.1, -0.05; -3.0, -0.06; -3.8, -0.01; -1.2, -0.07; -9.3, -0.01.
Starikova, 1976: +1.4, -0.04; +2.7, -0.05; +2.1, 0.00; +5.2, -0.05; -1.6, -0.01.

9359 B 276 14 44.4 -27 01

80.240	211.6	0.43	2	8	+0.6	3	0.7	36	
80.243	208.8	0.41	2	7	+0.6	3	0.2	36	
80.254	203.8	0.34	2	5	+0.8	3	0.4	36	
80.246	208.1	0.39	3n		0.4			36-Inch	

FIN 309 14 46.2 -21 10

80.232	190.0	0.15	2	6	+0.5	3	0.0	60	
80.240	180.0	0.16	2	8	+0.6	3	0.0	36	
80.249	187.0	0.17	2	7	+0.3	3	0.0	36	
80.232	190.0	0.15	1n		0.0			60-Inch	
80.244	183.5	0.16	2n		0.0			36-Inch	

da Silva, Balca, 1972: -1.7, -0.03; -8.5, -0.02.

9387 BU 346 14 48.6 -17 20

80.254	272.0	2.38	2	5	+0.8	3	0.2	36	
80.254	272.0	2.38	1n		0.2			36-Inch	

9392 STF 1883 14 48.9 +05 57

76.405	305.0	0.20	2	6	0.0	3	0.0	26	
77.423	306.4	0.25	2	6	0.0	3	0.0	26	
78.491	300.1	0.26	2	5	+0.1	3	0.0	26	
78.510	298.4	0.26	2	7	+0.3	3	0.2	26	
77.707	302.5	0.24	4n		0.0			26-Inch	

Feierman, 1969: 0.0, -0.07.

9404 HU 647 14 49.2 +48 14

80.449	83.9	0.32	2	5	-0.3	3	0.2	26	
82.313	78.8	0.27	2	5	0.0	3		26	
82.346	92.6	0.22	2	6	0.0	3		26	
81.703	85.1	0.27	3n		0.2			26-Inch	

9396 BU 106 14 49.3 -14 09

76.405	358.5	1.98	1	6	0.0	3	1.0	26	
76.492	359.4	1.65	1	5	+0.2	3	1.0	26	
77.423	358.6	1.88	1	5	+0.2	3	0.6	26	
76.773	358.8	1.84	3n		0.9			26-Inch	

9400 A 1110 14 49.7 +07 59

79.425	252.9	0.70	2	6	0.0	3	0.5	26	
79.466	250.7	0.55	2	5	-0.1	3	0.4	26	
79.488	255.2	0.56	2	5	0.0	3	0.3	26	
82.313	250.2	0.60	2	5	0.0	3	0.3	26	
82.327	255.5	0.59	2	4	-0.1	3		26	
82.346	252.1	0.53	2	6	0.0	3	0.2	26	
79.460	252.9	0.60	3n		0.4			26-Inch	
82.329	252.6	0.57	3n		0.2			26-Inch	

9418 STT 287 14 51.4 +44 55

86.460	169.4	0.98	2	5	-0.2	3	0.4	26	
86.463	169.2	1.03	2	6	-0.1	3		26	
86.468	169.0	0.94	2	5	-0.2	3		26	
86.482	170.8	1.00	2	6	0.0	3	0.1	26	
86.468	169.6	0.99	4n		0.2			26-Inch	

Heintz, 1962: +2.1, -0.09.

RST 3898 14 51.5 -10 33

80.240	262.2	0.62	2	8	+0.7	3	1.2	36	
80.243	254.9	0.58	2	7	+0.8	3	1.2	36	
80.242	258.6	0.60	2n		1.2			36-Inch	

Considerable motion. Neglected.

I 236 14 53.2 -73 12

80.224	120.4	2.12	2	5	+0.5	3	2.0	60	
80.227	121.2	2.21	2	5	+0.5	3	2.2	60	
80.226	120.8	2.16	2n		2.1			60-Inch	

9425 STT 288 14 53.4 +15 42

82.327	172.4	1.37	2	4	-0.1	3	0.7	26
85.526	170.8	1.38	1	7	0.0	3	0.7	26
85.543	170.2	1.36	1	7	+0.3	3	0.6	26
84.465	171.1	1.37	3n		0.7			26-Inch

Heintz, 1956: +1.9, +0.21.

HJ 4707 14 54.3 -66 25

80.224	325.6	0.59	2	4	+0.6	3			60
80.227	328.0	0.56	2	4	+0.6	3	0.3		60
80.226	326.8	0.58	2n		0.3				60-Inch

Woolley, Mason, 1948: -6.1, -0.05.

COU 409 Aa 14 54.8 +24 11

86.422	212.2	0.46	2	6	-0.1	3	0.3		26
86.449	215.0	0.49	2	5	0.0	3	0.3		26
86.463	215.7	0.47	2	6	-0.3	3	0.3		26
86.445	214.3	0.47	3n		0.3				26-Inch

9441 A 1627 14 55.7 +39 39

79.425	60.7	0.15	2	6	0.0	3	0.0		26
80.449	56.4	0.18	2	5	-0.1	3	0.0		26
82.340	61.1	0.17	2	5	-0.2	4	0.0		26
80.738	59.4	0.17	3n		0.0				26-Inch

Couteau, 1984: + 4.9, +0.02.

9452 BU 808 14 58.4 -08 42

80.232	103.2	0.34	2	5	+0.6	3	0.0		60
80.232	103.2	0.34	1n		0.0				60-Inch

More than a quadrant has been described.

OL 187 14 58.6 +15 08

86.422	81.4	1.72	2	6	0.0	3	0.3		26
86.449	82.0	1.79	2	6	0.0	3	0.1		26
86.482	80.4	1.66	2	6	0.0	3	0.2		26
86.451	81.3	1.72	3n		0.2				26-Inch

9453 BU 239 14 58.6 -27 39

80.249	347.5	0.60	2	7	+0.2	3	0.2		36
80.251	348.9	0.56	2	5	+0.3	3			36
80.250	348.2	0.58	2n		0.2				36-Inch

van Dessel, 1983: -4.2, +0.06.

9482 A 1629 15 01.2 +41 33

76.405	208.4	1.93	2	6	-0.1	3	3.2		26
79.466	279.4	1.97	2	5	-0.1	3	3.2		26
82.346	282.3	1.88	2	6	0.0	3	2.2		26
79.406	280.7	1.93	3n		2.9				26-Inch

9494 STF 1909 15 03.8 +47 39

77.133	25.2	0.74	1	8	-0.2	3	0.2		26
77.423	25.4	0.81	1	7	0.0	3	0.3		26
77.472	27.0	0.92	1	4	-0.2	3	0.6		26
78.491	30.9	0.94	2	6	0.0	3	0.6		26
78.510	32.2	0.93	2	6	+0.2	3	0.4		26
78.512	30.1	0.89	2	7	0.0	3	0.3		26
78.516	30.2	0.86	2	7	0.0	3	0.4		26
79.425	34.5	0.97	2	7	0.0	3	0.3		26
79.466	33.5	0.98	2	6	-0.1	3	0.3		26
79.488	33.3	0.80	2	4	-0.1	3			26
80.405	34.3	1.16	2	4	-0.6	3	0.3		26
80.449	36.7	0.93	2	6	-0.3	3	0.7		26
82.313	38.9	1.25	2	5	-0.1	3	0.5		26
82.327	42.0	1.15	2	4	-0.5	3	0.3		26
82.340	39.7	1.15	2	6	-0.2	4	0.6		26
82.346	39.5	1.19	2	6	0.0	3	0.5		26
85.526	46.3	1.45	2	7	-0.2	3	0.8		26
85.543	45.6	1.36	2	7	0.0	3	0.5		26
85.546	46.0	1.32	2	6	-0.2	3	0.6		26
86.460	46.4	1.52	2	5	-0.3	3	0.3		26
86.463	46.2	1.45	2	7	-0.1	3	0.6		26
86.468	46.0	1.44	2	5	-0.3	3	0.3		26
86.482	44.8	1.50	2	6	-0.1	3	0.5		26
86.504	44.3	1.47	2	5	0.0	3	0.6		26
77.343	25.9	0.82	3n						26-Inch
78.507	30.8	0.90	4n						26-Inch
79.460	33.8	0.92	3n						26-Inch
80.427	35.5	1.04	2n						26-Inch
82.332	40.0	1.18	4n						26-Inch
85.538	46.0	1.38	3n						26-Inch
86.475	45.5	1.48	5n						26-Inch

Heintz, 1978: +1.1, +0.06; +1.6, +0.06;
+1.8, +0.02; +1.1, +0.07;
+1.7, +0.07; +3.1, +0.03;
+1.5, +0.14.

RST 3906 15 04.3 -15 29

80.232	331.6	0.22	2	6	+0.4	3	0.3		60
80.240	332.0	0.26	2	8	+0.6	3			36
80.243	331.4	0.26	2	7	+0.4	3	0.0		36
80.251	332.9	0.20	2	6	+0.4	3	0.0		36
80.232	331.6	0.22	1n		0.3				60-Inch
80.245	332.1	0.24	3n		0.0				36-Inch

Heintz, 1981: -0.4, -0.05; +0.2, -0.03.

9497 BU 119 15 05.5 -07 01

78.526	283.0	2.00	2	5	+0.1	3	0.4		26
78.529	283.8	1.99	2	7	+0.1	3	0.8		26
78.551	282.7	1.99	2	6	+0.7	3	0.6		26
78.535	283.2	1.99	3n		0.6				26-Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

RST 4534 — 15 08.9 -06 10

80.232	10.2	0.27	1	6	+0.7	3	0.2	60	
80.240	10.6	0.27	2	8	+0.6	3	0.2	36	
80.243	11.4	0.29	1	8	+0.4	3	0.2	36	
80.251	10.5	0.30	1	6	+0.3	3	0.0	36	
80.232	10.2	0.27	1n		0.2			60-Inch	
80.245	10.8	0.29	3n		0.1			36-Inch	

WRH 4 — 15 10.4 +15 26

86.422	293.8	3.74	2	6	0.0	3	1.2	26	
86.449	294.0	3.54	2	6	0.0	3	1.0	26	
86.482	295.5	3.95	2	6	0.0	3	1.4	26	
86.451	294.4	3.74	3n		1.2			26-Inch	

9545 HU 1159 — 15 12.7 +60 08

79.425	320.9	0.21	2	7	-0.2	3	0.0	26	
79.466	309.1	0.23	2	5	-0.1	3		26	
82.346	328.1	0.18	2	6	0.0	3		26	
80.412	319.4	0.21	3n		0.0			26-Inch	

Costa, Docobo, 1984: -9.8, +0.04.
Baize, 1985: -6.1, +0.02.

9551 HU 145 — 15 14.1 +52 36

79.425	130.9	2.21	2	7	-0.1	3	2.6	26	
79.466	134.2	2.09	2	5	-0.1	3	3.0	26	
82.313	133.1	2.47	2	5	-0.2	3	2.8	26	
80.401	132.7	2.26	3n		2.8			26-Inch	

B 1274 — 15 14.2 -38 29

80.224	63.8	0.62	2	4	+0.5	3	0.4	60	
80.227	63.4	0.68	2	5	+0.5	3	0.6	60	
80.226	63.6	0.65	2n		0.5			60-Inch	

9553 STF 1926 — 15 15.0 +38 18

85.526	246.6	0.45	2	6	-0.2	3	1.0	26	
85.543	245.6	0.43	2	6	0.0	3	0.8	26	
86.422	251.9	0.52	2	5	0.0	3	1.5	26	
86.449	249.6	0.40	1	6	0.0	3	1.5	26	
85.985	248.4	0.45	4n		1.2			26-Inch	

9561 HJ 2772 — 15 15.7 +44 51

86.460	316.0	9.03	2	5	-0.2	3	3.5	26	
86.463	314.2	9.03	2	5	-0.1	3	4.0	26	
86.482	316.2	8.80	2	6	0.0	3	3.0	26	
86.468	315.5	8.95	3n		3.5			26-Inch	

9552 BU 350 — 15 15.7 -27 36

80.251	132.9	0.52	2	5	+0.6	3	0.8	36	
80.254	132.1	0.52	2	5	+0.4	3	0.3	36	
80.252	132.5	0.52	2n		0.6			36-Inch	

9575 ES 1252 — 15 17.8 +46 11

76.405	16.0	1.68	1	6	-0.1	3	0.3	26	
78.491	20.0	1.49	2	5	-0.1	3	0.7	26	
78.512	20.7	1.51	2	7	0.0	3	0.3	26	
77.803	18.9	1.56	3n		0.4			26-Inch	

9578 STF 1932 APXB — 15 18.3 +26 50

77.423	250.5	1.24	2	6	+0.1	3	0.1	26	
77.472	249.5	1.26	2	5	-0.2	3	0.3	26	
77.535	250.5	1.24	2	8	+0.1	3	0.1	26	
80.449	251.4	1.23	2	6	-0.3	3	0.1	26	
82.313	253.9	1.38	2	5	-0.2	3	0.3	26	
82.327	252.8	1.46	2	4	-0.5	3	0.0	26	
82.340	253.2	1.43	2	6	-0.3	4	0.0	26	
86.504	255.1	1.34	2	5	-0.1	3	0.4	26	
86.556	255.0	1.40	2	7	+0.3	3	0.3	26	
87.552	256.9	1.35	2	7	+0.2	3	0.2	26	
87.555	255.7	1.39	2	7	+0.2	3	0.2	26	
77.477	250.2	1.25	3n		0.2			26-Inch	
81.857	252.8	1.38	4n		0.1			26-Inch	
87.042	255.7	1.37	4n		0.3			26-Inch	

Heintz, 1965: +1.3, -0.10; +1.5, -0.04.
+1.9, -0.11.

I 1267 — 15 18.6 -46 12

80.227	31.9	0.45	1	5	+0.6	3	0.5	60	
80.230	33.0	0.44	2	6	+0.6	3	0.6	60	
80.232	33.8	0.47	2	6	+0.7	3	0.8	60	
80.230	32.9	0.45	3n		0.6			60-Inch	

9589 A 1630 — 15 19.2 +43 29

78.516	254.0	0.70	2	7	-0.2	3	0.4	26	
78.526	248.7	0.67	2	5	0.0	3	0.5	26	
78.529	252.9	0.70	2	7	+0.2	3	0.3	26	
78.524	251.9	0.69	3n		0.4			26-Inch	

9591 A 1631 AB — 15 20.0 +46 03

77.423	266.1	0.76	2	6	0.0	3	0.3	26	
78.510	267.1	0.76	2	6	0.0	3	0.6	26	
78.512	264.4	0.70	2	7	0.0	3	0.4	26	
78.148	265.9	0.74	3n		0.4			26-Inch	

ES 75 AC

77.423	35.5	4.40	2	7	+0.1	3	0.1	26	
78.510	33.3	4.24	2	5	+0.1	3	0.3	26	
78.512	35.0	4.28	2	7	+0.1	3	0.3	26	
78.148	34.6	4.31	3n		0.2			26-Inch	

9599 HO 62 15 20.8 +34 59

80.449	282.4	1.40	2	6	-0.4	3	0.0	26
82.313	286.5	1.41	2	5	0.0	3	0.0	26
82.340	285.8	1.44	2	6	-0.3	4	0.0	26
81.701	284.9	1.42	3n		0.0		26-Inch	

9600 HU 146 15 21.0 +21 04

79.425	129.2	0.56	2	6	0.0	3	0.3	26
79.466	129.2	0.57	2	5	-0.1	3	0.2	26
79.488	127.0	0.49	2	4	0.0	3	0.2	26
80.449	127.5	0.55	2	7	-0.3	3	0.6	26
79.707	128.2	0.54	4n		0.3		26-Inch	

I 86 15 21.5 -38 16

80.224	253.2	1.85	2	5	+0.5	3	0.5	60
80.227	253.2	1.79	2	5	+0.7	3	0.7	60
80.226	253.2	1.82	2n		0.6		60-Inch	

HJ 2777 15 22.4 +25 38

76.405	342.8	41.86	1	7	0.0	3	3.5	26
77.472	342.8	41.92	1	5	-0.3	3	4.0	26
76.938	342.8	41.89	2n		3.8		26-Inch	

Optical.

9623 HU 909 15 23.2 +61 00

79.425	286.2	1.47	2	6	-0.2	3	2.8	26
80.449	282.7	1.48	2	6	-0.1	3	2.4	26
85.526	284.7	1.46	2	6	-0.1	3	2.0	26
81.800	284.5	1.47	3n		2.4		26-Inch	

9617 STF 1937 15 23.2 +30 18

76.405	240.0	0.35	3	6	0.0	3	0.4	26
76.492	240.2	0.44	2	5	-0.2	3	0.3	26
77.423	259.0	0.38	2	5	+0.1	3	0.4	26
77.472	260.3	0.39	3	5	-0.4	3	0.3	26
77.535	258.9	0.33	2	8	+0.1	3	0.3	26
78.491	282.7	0.31	2	5	+0.2	3	0.3	26
78.510	284.0	0.31	2	6	+0.1	3	0.4	26
78.512	283.4	0.35	2	6	+0.1	3	0.3	26
78.516	285.6	0.34	2	7	0.0	3	0.3	26
79.425	305.9	0.36	2	7	-0.1	3	0.3	26
79.466	304.3	0.35	2	5	-0.1	3	0.4	26
80.449	327.4	0.39	2	6	-0.2	3	0.6	26
82.313	353.4	0.69	2	5	0.0	3	0.5	26
82.327	354.1	0.58	2	4	-0.3	3	0.6	26
82.340	351.6	0.50	1	6	-0.2	4	0.4	26
82.346	351.8	0.57	2	5	+0.1	3	0.5	26
84.530	7.5	0.80	2	7	0.0	3	0.3	26
85.526	11.8	0.83	2	5	-0.3	3	0.4	26
85.543	12.0	0.77	2	7	0.0	3	0.4	26
85.546	11.4	0.80	2	6	-0.3	3	0.4	26
86.422	14.3	1.02	2	5	0.0	3		26
86.449	14.1	1.00	2	6	0.0	3	0.3	26
86.460	15.2	0.97	2	5	-0.2	3	0.5	26
86.463	15.8	1.02	2	6	-0.2	3	0.5	26
87.552	19.9	0.87	2	7	+0.1	3	0.5	26
87.555	18.3	0.91	2	8	0.0	3	0.4	26
87.558	19.1	1.04	2	7	0.0	3	0.3	26
87.572	18.4	0.93	2	6	+0.3	3	0.4	26
76.448	240.1	0.40	2n		0.4		26-Inch	
77.477	259.4	0.37	3n		0.3		26-Inch	
78.507	283.9	0.33	4n		0.3		26-Inch	
79.446	305.1	0.36	2n		0.4		26-Inch	
80.449	327.4	0.39	1n		0.6		26-Inch	
82.332	352.7	0.58	4n		0.5		26-Inch	
85.286	10.7	0.80	4n		0.4		26-Inch	
86.448	14.8	1.00	4n		0.4		26-Inch	
87.559	18.9	0.94	4n		0.4		26-Inch	

Silbernagel, 1929: +2.2, -0.08;
+2.9, -0.04; +2.4, -0.04;
-0.7, -0.02; +0.4, -0.06;
+1.4, -0.04; +0.8, -0.08;
0.0, +0.05; +0.1, -0.07.

9619 A 1367 15 23.3 +36 19

80.449	325.7	0.51	2	5	-0.2	3	0.2	26
82.313	330.0	0.63	2	5	-0.1	3	0.2	26
82.340	324.4	0.62	2	6	-0.2	4	0.0	26
82.346	337.0	0.58	2	5	0.0	3		26
81.862	329.3	0.58	4n		0.1		26-Inch	

9626 STF 1938 BC 15 24.5 +37 22

77.472	18.0	2.16	2	5	-0.2	3	0.3	26
78.510	14.4	1.98	2	6	0.0	3	0.8	26
78.512	15.2	2.01	2	7	+0.1	3	0.6	26
78.516	17.6	2.05	2	7	-0.1	3	0.4	26
84.530	15.4	2.18	2	7	-0.1	3	0.2	26
85.543	14.0	2.09	2	7	0.0	3	0.6	26
85.546	15.7	2.11	2	6	-0.1	3	0.3	26
78.252	16.3	2.05	4n		0.5		26-Inch	
85.206	15.0	2.13	3n		0.4		26-Inch	

Baize, 1952: -0.1, -0.11; +1.1, -0.08.
Scardia, 1986: 0.0, -0.08; +1.2, -0.04.

9628 HU 149 15 24.6 +54 13

85.526	274.5	0.65	2	6	-0.2	3	0.2	26
85.543	275.3	0.53	2	6	0.0	3	0.1	26
85.546	277.9	0.57	2	6	0.0	3	0.2	26
85.538	275.9	0.58	3n		0.2		26-Inch	

B 1288 15 24.6 -48 35

80.230	323.8	0.24	2	6	+0.4	3	0.1	60
80.232	318.8	0.20	2	6	+0.5	3	0.0	60
80.231	321.3	0.22	2n		0.0		60-Inch	

I 87 BC 15 25.4 -38 44

80.251	224.2	1.12	2	5	+0.4	3	0.3	36
80.254	223.0	1.14	2	4	+0.4	3	0.4	36
80.252	223.6	1.13	2n		0.4			36-Inch

9630 STF 1941 15 25.7 +26 38

86.422	216.4	1.53	2	6	0.0	3	0.0	26
86.460	216.4	1.45	2	5	-0.1	3	0.2	26
86.463	217.6	1.42	2	7	-0.2	3	0.2	26
86.482	214.1	1.55	2	6	-0.1	3	0.2	26
86.457	216.1	1.49	4n		0.2			26-Inch

9634 STF 1940 15 26.1 +18 10

86.422	329.5	0.60	2	5	0.0	3	0.4	26
86.460	327.4	0.59	2	5	0.0	3	0.3	26
86.463	330.1	0.58	2	6	-0.1	3	0.4	26
86.482	324.9	0.55	2	6	0.0	3	0.4	26
86.457	328.0	0.58	4n		0.4			26-Inch

9635 A 1119 15 26.5 +08 22

77.472	2.4	1.63	1	5	-0.2	3	0.2	26
78.510	0.8	1.59	1	5	+0.2	3	0.1	26
78.512	1.2	1.55	1	7	+0.2	3	0.0	26
78.165	1.5	1.59	3n		0.1			26-Inch

9636 A 18 15 26.7 -05 39

78.516	175.5	0.52	1	7	0.0	3	0.6	26
78.526	173.2	0.43	1	5	-0.1	3	0.6	26
78.529	174.2	0.50	1	7	-0.2	3	0.6	26
78.524	174.3	0.48	3n		0.6			26-Inch

9654 A 2175 15 28.2 +02 51

79.425	185.8	0.23	1	6	0.0	3	0.0	26
80.449	189.8	0.25	2	6	0.0	3	0.0	26
82.340	185.7	0.28	1	5	-0.2	4	0.0	26
80.738	187.1	0.25	3n		0.0			26-Inch

Heintz, 1982: -9.1, +0.03.

B 2036 AB 15 31.3 -33 50

80.251	174.2	0.23	2	5	+0.4	3		36
80.251	174.2	0.23	1n					36-Inch

HWE 78 ABXC

80.251	137.8	1.58	2	5	+0.5	3	1.4	36
80.251	137.8	1.58	1n		1.4			36-Inch

9692 HU 577 15 32.8 +19 45

78.516	308.1	0.14	2	7	0.0	3	0.0	26
78.526	303.6	0.18	2	5	0.0	3	0.0	26
78.529	307.6	0.16	2	7	-0.1	3	0.0	26
86.482	329.0	0.21	2	6	0.0	3	0.0	26
87.555	336.9	0.19	1	7	+0.2	3		26
87.558	337.5	0.20	3	7	+0.2	3	0.0	26
78.524	306.4	0.16	3n		0.0			26-Inch
87.198	334.4	0.20	3n		0.0			26-Inch

Couteau, 1984: -3.4, 0.00; -5.2, 0.00.

COU 610 15 32.9 +31 22

74.540	202.5	0.55	2	6	-0.2	3	2.5	26
75.498	201.5	0.59	1	7	0.0	4	1.2	26
75.501	200.1	0.75	1	6	0.0	3	1.5	26
77.535	200.6	0.63	1	7	+0.1	3	1.8	26
78.510	200.7	0.53	1	6	+0.2	3	1.4	26
78.512	203.1	0.52	2	7	+0.2	3	1.5	26
78.516	202.9	0.55	2	6	0.0	3	1.5	26
75.768	200.6	0.59	4n		1.8			26-Inch
78.513	202.2	0.53	3n		1.5			26-Inch

9689 SEE 238 BC 15 33.1 -24 29

80.230	180.6	0.32	2	5	+0.4	3	0.2	60
80.232	178.8	0.31	2	6	+0.6	3	0.1	60
80.231	179.7	0.32	2n		0.2			60-Inch

Wierzbinski, 1960: -7.0, -0.01.

9710 HO 63 15 35.8 +28 23

74.428	307.2	1.45	2	6	-0.1	3	0.1	26
78.526	312.0	1.47	2	5	0.0	3	0.3	26
78.529	310.5	1.41	4	7	0.0	3	0.2	26
77.161	309.9	1.44	3n		0.2			26-Inch

9716 STT 298 15 36.1 +39 48

79.425	213.3	0.66	2	7	-0.1	3	0.2	26
79.466	212.3	0.72	2	5	0.0	3	0.2	26
80.449	214.6	0.56	2	5	-0.2	3	0.3	26
82.313	224.5	0.55	2	5	0.0	3	0.1	26
82.327	223.9	0.56	2	4	-0.4	3	0.5	26
82.340	223.9	0.47	2	6	-0.2	4	0.3	26
82.346	223.0	0.54	2	6	0.0	3	0.1	26
85.526	245.8	0.38	2	6	0.0	3	0.3	26
85.543	246.7	0.38	2	6	-0.1	3	0.2	26
85.546	252.0	0.34	2	6	-0.1	3	0.2	26
85.559	250.2	0.33	2	6	0.0	3	0.3	26
86.422	259.6	0.38	2	5	0.0	3	0.0	26
86.449	256.1	0.30	2	6	-0.1	3	0.0	26
86.460	255.8	0.34	2	5	-0.1	3		26
86.463	266.7	0.35	2	6	-0.1	3		26
87.552	278.6	0.29	2	6	+0.1	3		26
87.555	276.7	0.25	2	7	0.0	3	0.3	26
87.558	276.9	0.34	2	7	0.0	3	0.3	26

79.780	213.4	0.65	3n	0.2	26-Inch	
82.332	223.8	0.53	4n	0.2	26-Inch	
85.544	248.7	0.34	4n	0.2	26-Inch	
86.448	259.6	0.34	4n	0.0	26-Inch	
87.555	277.4	0.29	3n	0.3	26-Inch	

Couteau, 1966: +1.1, -0.09; +2.9, -0.06;
+8.1, -0.07; +9.7, -0.02.
+12.6, -0.02.
Following the approaching periastron passage, a very good orbit should result.

RST 4545 15 36.9 -04 38

80.240	268.0	0.34	2	8	+0.4	3	0.6	36	
80.243	272.2	0.33	2	7	+0.2	3	0.8	36	
80.246	268.8	0.31	2	5	+0.3	3	0.3	36	
80.243	269.7	0.33	3n	0.6	36-Inch				

9730 HU 1168 15 37.0 +64 26

79.425	127.9	0.20	2	6	0.0	3	0.0	26	
79.466	145.4	0.26	2	5	0.0	3		26	
80.449	142.3	0.20	2	6	-0.1	3		26	
82.340	135.0	0.24	2	6	-0.2	4		26	
82.346	128.6	0.17	2	6	-0.1	3		26	
80.805	135.8	0.21	5n	0.0	26-Inch				

Heintz, 1976: -4.3, -0.01.

9729 MLB 72 15 37.1 +60 21

82.346	6.1	2.01	2	6	0.0	3	0.2	26	
85.526	2.5	1.75	2	6	-0.2	3	0.3	26	
85.543	3.7	1.92	2	6	0.0	3	0.5	26	
84.472	4.1	1.89	3n	0.3	26-Inch				

I 242 15 37.4 -31 32

80.224	43.0	2.17	2	4	+0.7	3	0.3	60	
80.227	42.4	2.11	2	5	+0.5	3	0.3	60	
80.226	42.7	2.14	2n	0.3	60-Inch				

I 243 15 37.9 -31 15

80.224	335.6	0.80	2	5	+0.8	3	0.5	60	
80.227	337.3	0.87	2	5	+0.6	3	0.6	60	
80.226	336.4	0.84	2n	0.6	60-Inch				

9733 BU 121 15 39.6 -27 39

80.246	102.2	1.81	2	6	+0.4	3	0.0	36	
80.251	102.6	1.81	2	5	+0.8	3	0.1	36	
80.248	102.4	1.81	2n	0.0	36-Inch				

9769 STF 1989 15 39.7 +79 58

79.429	30.6	0.62	2	6	0.0	3	0.0	26	
79.466	33.9	0.55	1	5	+0.2	3	0.8	26	
80.449	30.8	0.60	1	6	0.0	3	0.8	26	
79.780	31.8	0.59	3n	0.5	26-Inch				

Wierzbinski, 1957: +1.3, -0.12.
Giannuzzi, 1956: +4.8, -0.01.

9739 AG 197 15 39.8 +21 17

86.482	128.5	2.94	2	6	0.0	3	0.3	26	
86.504	126.0	3.04	2	5	0.0	3	0.4	26	
86.493	127.2	2.99	2n	0.4	26-Inch				

9735 BU 122 15 39.9 -19 47

80.246	43.4	1.78	2	5	+0.3	3	0.2	36	
80.251	43.3	1.91	2	5	+0.7	3	0.1	36	
80.248	43.4	1.84	2n	0.2	36-Inch				

9742 A 2076 15 40.5 +18 41

82.313	179.5	0.61	2	5	0.0	3	0.2	26	
82.340	183.9	0.55	2	6	-0.1	4	0.1	26	
82.346	181.4	0.57	2	7	+0.1	3	0.2	26	
82.333	181.6	0.58	3n	0.1	26-Inch				

9756 STF 1969 15 41.3 +59 59

79.425	16.8	0.40	1	7	0.0	3	0.6	26	
79.466	18.2	0.36	1	5	+0.1	3	0.4	26	
80.449	19.2	0.39	2	5	0.0	3		26	
85.526	26.5	0.59	2	6	0.0	3	0.4	26	
85.543	23.6	0.59	2	6	+0.1	3	0.4	26	
85.546	22.9	0.51	2	7	0.0	3	0.5	26	
79.780	18.1	0.38	3n	0.5	26-Inch				
85.538	24.3	0.56	3n	0.4	26-Inch				

Heintz, 1975: +1.1,-0.01; +3.2, +0.04.

9757 STF 1967 15 42.8 +26 18

78.510	124.1	0.30	2	6	+0.2	3	1.3	26	
78.512	127.1	0.28	2	6	+0.2	3	1.2	26	
78.516	128.0	0.39	2	6	0.0	3	2.0	26	
78.526	124.1	0.28	2	5	0.0	3	1.4	26	
87.572	121.3	0.52	2	6	0.0	3	2.0	26	
87.575	122.7	0.47	2	6	+0.2	3	2.0	26	
87.591	121.6	0.56	2	6	+0.3	3	1.8	26	
78.516	125.8	0.31	4n	1.5	26-Inch				
87.579	121.9	0.52	3n	1.9	26-Inch				

Baize, 1953: -2.0, -0.05; +3.0, -0.07.

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

9751	BU 35		15 42.8 -16 00					
80.240	106.5	2.07	2 8 +0.3 3 1.3 36					
80.243	106.2	1.98	2 7 +0.2 3 2.5 36					
80.251	106.5	2.12	2 6 +0.8 3 1.3 36					
80.245	106.4	2.06	3n 1.7	36-Inch				
9759	A 19		15 43.7 -05 42					
78.526	337.0	1.58	1 5 +0.1 3 0.1 26					
78.529	335.9	1.61	2 5 0.0 3 0.1 26					
78.551	337.5	1.64	2 6 +0.1 3 0.1 26					
78.535	336.8	1.61	3n 0.1	26-Inch				
	COU 106		15 44.0 +22 20					
85.526	275.1	0.39	2 6 -0.1 3 0.5 26					
85.543	274.5	0.40	2 6 +0.1 3 0.4 26					
85.546	275.5	0.39	2 6 0.0 3 0.5 26					
85.538	275.0	0.39	3n 0.5	26-Inch				
9763	A 2230		15 44.0 +02 31					
70.409	47.7	4.65	2 8 0.0 1 6.0 26					
75.451	48.0	4.24	2 6 +0.1 3 5.0 26					
77.535	44.8	4.39	2 7 0.0 3 5.0 26					
74.465	46.8	4.43	3n 5.3	26-Inch				
	I 1099		15 44.3 -54 19					
80.246	14.2	0.35	2 7 +0.4 3 0.0 36					
80.251	16.4	0.43	1 5 +0.5 3 0.2 36					
80.248	15.3	0.39	2n 0.1	36-Inch				
	FIN 234		15 45.2 -58 41					
80.240	163.8	0.24	2 7 +0.6 3 0.2 36					
80.243	163.4	0.23	2 7 +0.3 3 0.2 36					
80.246	162.7	0.25	2 5 +0.6 3	36				
80.243	163.3	0.24	3n 0.2	36-Inch				
This is the only measure since discovery. Decrease in angle and separation.								
9775	BU 620		15 46.2 -28 04					
80.230	173.4	0.53	2 6 +0.4 3 0.0 60					
80.232	170.6	0.59	2 6 +0.5 3 0.2 60					
80.231	172.0	0.56	2n 0.1	60-Inch				
	COU 66		15 46.5 +19 57					
85.526	146.0	0.79	2 6 0.0 3 0.0 26					
85.543	146.8	0.88	2 6 +0.1 3	26				
85.546	147.0	0.76	2 7 +0.1 3 0.0 26					
85.538	146.6	0.81	3n 0.0	26-Inch				
9783	A 2077		15 46.9 +19 04					
77.535	237.1	0.45	2 7 +0.1 3 0.8 26					
78.512	239.9	0.51	2 5 +0.2 3 0.4 26					
78.516	231.4	0.51	2 5 +0.1 3 0.7 26					
78.188	236.1	0.49	3n 0.6	26-Inch				
	I 245		15 46.9 -44 15					
80.240	335.4	0.82	2 7 +0.4 3 0.8 36					
80.243	332.0	0.66	2 7 +0.4 3 0.7 36					
80.251	338.0	0.83	2 4 +0.5 3 1.2 36					
80.245	335.5	0.77	3n 0.9	36-Inch				
	COU 801		15 48.8 +32 41					
86.422	195.1	1.42	2 6 0.0 3 0.3 26					
86.449	197.8	1.50	2 6 -0.2 3 0.6 26					
86.460	199.8	1.34	2 5 -0.1 3 0.3 26					
86.444	197.6	1.42	3n 0.4	26-Inch				
9800	STF 3126		15 50.0 -03 11					
86.482	281.7	2.17	2 5 0.0 3 0.0 26					
86.504	282.3	2.30	2 4 -0.1 3	26				
86.493	282.0	2.24	2n 0.0	26-Inch				
9831	A 2080		15 54.1 +16 59					
78.529	80.0	0.24	2 7 +0.2 3 0.2 26					
78.551	82.5	0.24	2 7 +0.1 3 0.2 26					
79.425	88.1	0.22	2 6 0.0 3 0.0 26					
80.449	83.9	0.24	2 6 0.0 3 0.0 26					
82.313	89.3	0.27	2 6 -0.1 3 0.0 26					
82.340	91.0	0.21	2 5 -0.2 4	26				
82.346	89.2	0.28	2 7 -0.1 3 0.1 26					
85.526	91.1	0.29	2 6 0.0 3 0.0 26					
85.543	85.8	0.36	2 5 0.0 3 0.0 26					
85.546	94.9	0.28	2 6 -0.2 3 0.3 26					
78.835	83.5	0.23	3n 0.1	26-Inch				
81.862	88.4	0.25	4n 0.0	26-Inch				
85.538	90.6	0.31	3n 0.1	26-Inch				
Baize, 1986: -4.3, -0.06; -2.8, -0.04; -4.7, +0.02.								
9844	HO 399		15 55.4 +29 32					
86.449	119.5	3.33	2 5 -0.2 3 3.4 26					
86.460	117.6	3.53	2 5 -0.1 3 3.4 26					
86.463	117.8	3.38	2 7 -0.2 3 3.0 26					
86.457	118.3	3.41	3n 3.1	26-Inch				

9836 I 977 15 55.7 -26 45

80.227	146.6	0.31	2 5 +0.5 3 0.3 60
80.230	145.3	0.26	2 5 +0.3 3 0.4 60
80.232	144.7	0.32	2 6 +0.4 3 0.4 60
80.230	145.5	0.30	3n 0.1 60-Inch

Heintz, 1982: +0.1, 0.00.

9842 STF 1985 15 55.9 -02 12

84.530	349.1	5.95	1 6 -0.1 3 1.2 26
85.546	347.7	5.98	2 7 +0.1 3 0.7 26
85.587	349.0	6.00	1 6 +0.4 3 1.3 26
85.221	348.6	5.98	3n 1.1 26-Inch

Hopmann, 1973: -1.9, -0.17.
The "orbit" depends on an arc-length of only 22 degrees.

9891 STF 2006 16 00.3 +58 56

86.460	182.0	1.65	2 5 0.0 3 1.2 26
86.463	180.5	1.59	1 7 -0.3 3 1.2 26
86.504	183.7	1.48	2 5 0.0 3 1.2 26
86.476	182.1	1.57	3n 1.2 26-Inch

9880 STT 303 16 00.9 +13 16

84.530	169.4		2 7 -0.1 3 0.5 26
84.565	168.3	1.42	1 7 0.0 3 0.4 26
85.543	166.0	1.36	2 5 0.0 3 0.0 26
85.546	169.0	1.30	2 7 -0.2 3 0.3 26
85.559	166.9	1.45	1 5 -0.2 3 0.5 26
85.149	167.9	1.38	4n 0.3 26-Inch

9881 BU 623 16 01.3 -06 58

80.449	229.6	0.83	2 6 0.0 3 0.6 26
82.313	232.5	0.87	2 5 -0.1 3 0.4 26
82.346	232.5	0.88	2 4 -0.1 3 0.6 26
81.703	231.5	0.86	3n 0.5 26-Inch

9907 STF 2004 16 03.3 +28 51

76.405	278.6	1.79	2 7 0.0 3 0.7 26
77.535	279.5	1.90	2 7 -0.1 3 0.7 26
78.512	280.4	1.83	2 5 0.0 3 0.7 26
77.484	279.5	1.84	3n 0.7 26-Inch

SEE 258 16 03.6 -57 47

80.240	250.1	0.51	2 7 +0.4 3 0.0 36
80.243	248.2	0.41	2 7 +0.2 3 0.2 36
80.246	247.0	0.40	2 6 +0.4 3 0.2 36
80.243	248.4	0.44	3n 0.1 36-Inch

van den Bos, 1961: +1.5, -0.08.

9909 STF 1998 16 04.4 -11 22

78.510	19.3	1.11	1 5 0.0 3 0.2 26
78.512	18.8	1.04	1 4 +0.2 3 0.3 26
78.516	18.6	1.09	1 4 0.0 3 0.4 26
78.526	18.0	1.15	1 5 -0.2 3 0.3 26
82.313	28.3	1.11	2 5 0.0 3 0.2 26
82.346	29.2	1.18	2 4 0.0 3 26
84.530	33.2	1.02	2 6 0.0 3 0.3 26
84.565	30.5	1.03	1 6 +0.1 3 0.4 26
86.422	34.0	0.96	2 6 -0.1 3 0.0 26
86.449	37.5	0.92	2 5 -0.2 3 0.2 26
86.463	35.8	0.97	2 7 -0.1 3 0.2 26
86.482	35.8	0.91	2 6 -0.2 3 0.2 26
87.555	36.2	0.80	2 6 0.0 3 0.3 26
87.558	38.9	0.83	2 6 -0.1 3 0.3 26
87.572	37.9	0.87	2 5 +0.1 3 0.4 26
87.575	36.0	0.91	2 7 0.0 3 0.2 26
78.516	18.7	1.10	4n 0.3 26-Inch
83.438	30.3	1.08	4n 0.3 26-Inch
86.454	35.8	0.94	4n 0.2 26-Inch
87.565	37.2	0.85	4n 0.3 26-Inch

Harrington, 1987: -0.2, -0.06;+2.3, +0.06; +0.1, +0.08;-2.2, +0.06.

9918 BU 948 APXB 16 05.7 -06 17

80.449	109.1	1.08	2 6 0.0 3 2.6 26
81.579	113.1	1.05	2 7 +0.1 3 2.2 26
82.313	111.2	1.15	2 5 0.0 3 2.5 26
81.447	111.1	1.09	3n 2.4 26-Inch

KUI 70 16 06.0 -06 09

84.530	64.9	9.30	2 6 +0.2 3 6.0 26
85.526	64.1	9.00	2 5 0.0 3 5.0 26
85.546	64.3	9.43	2 6 0.0 3 5.0 26
85.201	64.4	9.24	3n 5.3 26-Inch

9925 BU 812 16 07.1 +16 54

82.346	104.6	0.77	2 5 -0.1 3 0.3 26
85.526	103.1	0.71	2 6 0.0 3 0.2 26
85.543	103.1	0.57	2 5 0.0 3 0.4 26
84.472	103.6	0.68	3n 0.3 26-Inch

9930 STF 2011 16 07.6 +29 00

86.460	67.9	2.68	2 5 0.0 3 2.0 26
86.482	67.3	2.44	2 6 -0.1 3 1.5 26
86.504	67.0	2.44	2 5 -0.1 3 2.2 26
86.482	67.4	2.52	3n 1.9 26-Inch

FIN 242 16 07.6 -53 36

80.240	38.2	0.27	2 7 +0.5 3 0.0 36
80.246	39.1	0.26	2 6 +0.4 3 36
80.243	38.6	0.26	2n 0.0 36-Inch

This is the only measure since discovery. Increase in angle.

9931 A 1798 16 07.9 +14 25

76.405	39.2	0.14	2	7	0.0	4		26
77.535	38.8	0.22	3	7	0.0	3		26
77.574	34.2	0.15	2	5	0.0	4		26
77.171	37.4	0.17	3n					26-Inch

9932 BU 949 16 08.5 -10 06

78.510	189.1	0.30	1	5	0.0	3	0.3	26
78.526	185.1	0.24	1	5	-0.1	3	0.2	26
78.529	187.5	0.29	1	6	-0.2	3	0.4	26
78.551	192.0	0.32	1	7	0.0	3	0.3	26
80.224	190.7	0.34	2	5	+0.6	3	0.4	60
80.227	192.8	0.38	2	6	+0.4	3	0.0	60
80.232	192.8	0.35	2	5	+0.3	3	0.2	60
82.313	193.7	0.37	2	5	0.0	3		26
85.526	195.3	0.41	1	5	-0.1	3		26
85.546	187.8	0.40	1	7	0.0	3	0.3	26
85.587	195.7	0.38	1	6	0.0	3	0.4	26
85.589	192.7	0.39	1	7	+0.1	3	0.5	26
86.463	195.1	0.49	1	7	-0.2	3	0.3	26
86.482	192.6	0.38	1	5	-0.2	3		26
87.555	193.3	0.34	1	7	0.0	3	0.0	26
87.558	195.8	0.45	1	7	0.0	3	0.5	26
78.529	188.4	0.29	4n		0.3			26-Inch
80.228	192.1	0.36	3n		0.2			60-Inch
85.562	192.9	0.40	4n		0.4			26-Inch
87.014	194.2	0.42	4n		0.3			26-Inch

Wilson, 1940: -2.7, -0.08; +0.2, -0.04;
-1.0, -0.08; +0.6, -0.06.

I 557 16 09.5 -31 03

80.230	226.2	0.19	2	6	+0.2	3	0.3	60
80.232	224.6	0.20	2	5	+0.4	3		60
80.231	225.4	0.20	2n		0.3			60-Inch

Closing in.

9955 A 2179 16 12.1 -00 06

77.535	79.8	0.84	2	7	0.0	3	2.2	26
78.516	84.2	0.73	2	4	0.0	3	2.4	26
78.526	83.6	0.84	4	5	0.0	3	2.2	26
78.529	78.8	0.83	2	6	-0.2	3	2.8	26
78.276	81.6	0.81	4n		2.4			26-Inch

9970 STF 2028 16 12.9 +39 21

77.535	Too close		2	7	0.0	3		26

9977 A 2083 16 14.7 +16 01

86.422	153.1	1.13	2	6	-0.2	3	0.0	26
86.449	151.9	1.07	2	6	-0.2	3	0.0	26
86.460	148.2	1.02	2	4	0.0	3		26
86.444	151.1	1.08	3n		0.0			26-Inch

9988 A 2180 BC 16 16.9 +01 17

80.449	311.4	1.34	2	6	-0.1	3	0.8	26
81.579	308.2	1.35	2	6	+0.2	3	0.3	26
82.313	311.9	1.18	2	5	0.0	3	0.7	26
81.447	310.5	1.29	3n		0.6			26-Inch

9989 A 2181 16 16.9 +01 11

80.449	48.1	0.33	2	7	-0.1	3	0.0	26
81.579	56.0	0.44	2	5	+0.1	3	0.2	26
82.313	51.3	0.37	2	5	0.0	3	0.0	26
81.447	51.8	0.38	3n		0.1			26-Inch

Popovic, 1969: -11.8, +0.03.

I 987 16 17.0 -53 42

80.240	147.2	0.27	2	7	+0.5	3	1.2	36
80.240	147.2	0.27	1n		1.2			36-Inch

This measure does not agree with either the Knipe or the Heintz orbit. Another pair?

9994 HU 661 16 17.8 +79 17

76.262	222.8	0.68	2	5	0.0	3	0.2	26
76.405	218.5	0.79	2	6	0.0	4	0.1	26
77.535	225.8	0.71	2	7	0.0	3	0.2	26
78.510	226.0	0.62	2	6	-0.1	3	0.0	26
77.178	223.3	0.70	4n		0.1			26-Inch

9991 A 23 16 17.9 -07 24

80.449	72.4	1.83	2	6	0.0	3	0.3	26
81.579	73.2	1.88	2	6	+0.1	3	0.1	26
82.313	74.1	1.96	2	5	+0.1	3	0.3	26
81.447	73.2	1.89	3n		0.2			26-Inch

10011 A 1137 16 19.2 +57 36

82.346	191.2	0.39	2	6	0.0	3	1.2	26
85.526	194.0	0.46	2	6	0.0	3	0.8	26
83.936	192.6	0.42	2n		1.0			26-Inch

Considerable inconsistency in recent measures of this pair.

10006 STT 309 16 19.2 +41 40

82.346	284.5	0.32	2	6	-0.1	3	0.4	26
85.526	285.7	0.29	2	7	0.0	3	0.0	26
85.543	287.7	0.34	2	5	-0.1	3		26
84.472	286.0	0.32	3n		0.2			26-Inch

TABLE 2 (Cont.)

10007	A 225			16 19.8	+26 47			
86.449	110.3	0.18	2 6	-0.2	3		26	
86.463	107.0	0.19	2 7	-0.2	3		26	
86.456	108.6	0.18	2n				26-Inch	
10017	HU 481			16 21.3	+23 00			
86.463	112.4	0.30	1 7	-0.2	3	1.2	26	
86.482	111.8	0.28	3 7	-0.2	3	1.0	26	
86.472	112.1	0.29	2n	1.1			26-Inch	

Popovic, 1969: -13.6, -0.07. Speckle confirms this result nicely; therefore, the orbit fails.

10043	ES 1827			16 23.2	+60 17			
76.342	37.4	4.76	2 6	-0.9	3	3.0	26	
78.512	45.1	5.51	2 5	0.0	3	2.7	26	
78.529	47.0	5.23	2 7	0.0	3	3.5	26	
78.551	39.0	4.97	2 7	-0.2	3	3.5	26	
77.984	42.1	5.12	4n	3.2			26-Inch	
10036	VBS AB			16 23.6	+33 21			
78.529	82.0	0.16	2 7	-0.2	3	0.4	26	
78.551	80.4	0.20	2 6	+0.1	3	0.2	26	
79.425	84.8	0.19	2 7	0.0	3		26	
78.835	82.4	0.18	3n	0.3			26-Inch	
	BU 951 ABXC							
78.529	34.0	1.06	2 7	-0.1	3	0.7	26	
78.551	38.5	0.98	2 7	+0.2	3	1.2	26	
79.425	35.1	1.16	2 7	+0.1	3	0.8	26	
78.835	35.9	1.07	3n	0.9			26-Inch	
10056	ES 1828			16 23.9	+60 20			
76.405	246.3	3.89	3 6	0.0	4	2.5	26	
77.535	248.1	3.99	2 7	0.0	3	2.0	26	
78.512	246.2	3.80	2 5	0.0	3	1.0	26	
77.484	246.9	3.89	3n	1.8			26-Inch	
10039	A 25			16 24.0	+20 24			
84.530	113.1		2 6	0.0	3	2.5	26	
84.565	113.9	5.18	2 5	0.0	3	2.6	26	
85.543	112.6	5.00	2 5	-0.1	3	4.0	26	
85.587	113.9	5.18	2 5	+0.2	3	2.6	26	
85.056	113.4	5.12	3n	2.9			26-Inch	
10046	BU 950			16 25.3	-09 52			
80.449	346.4	1.14	1 6	-0.1	3	2.5	26	
81.579	346.7	1.24	1 6	+0.2	3	0.7	26	
82.313	346.5	1.14	1 5	+0.1	3	1.2	26	
81.447	346.5	1.17	3n	1.5			26-Inch	
	COO 197			16 25.4	-49 09			
80.243	114.9	1.93	2 7	0.0	3	0.2	36	
80.246	115.2	1.93	2 6	+0.2	3	0.0	36	
80.244	115.0	1.93	2n	0.1			36-Inch	

Mourao, 1976: +7.0, +0.27.

10050	I 94			16 25.8	-29 55			
80.230	194.6	0.85	2 5	+0.1	3	1.0	60	
80.232	195.2	0.78	2 5	+0.2	3	1.0	60	
80.231	194.9	0.82	2n	1.0			60-Inch	
10070	STF 2049			16 27.9	+25 59			
86.460	197.9	1.15	2 4	-0.2	3	0.9	26	
86.463	196.0	1.31	4 7	-0.1	3	0.8	26	
86.482	197.5	1.18	2 7	-0.2	3	0.6	26	
86.556	199.0	1.13	2 7	-0.1	3	0.7	26	
86.490	197.6	1.19	4n	0.8			26-Inch	
10080	COP			16 28.2	+60 41			
76.262	86.7	1.32	2 5	0.0	3	0.6	26	
76.405	84.7	1.40	2 6	0.0	4	0.5	26	
76.492	90.9	1.69	2 4	-0.2	3	0.5	26	
77.535	88.0	1.35	2 6	0.0	3	0.6	26	
76.734	86.5	1.36	4n	0.6			26-Inch	
10075	STF 2052			16 28.9	+18 24			
77.574	139.4	1.36	2 5	-0.2	4	0.1	26	
77.593	138.4	1.31	2 7	0.0	3	0.0	26	
77.631	138.8	1.26	2 7	+1.0	3	0.0	26	
79.425	136.1	1.37	2 7	0.0	3	0.1	26	
79.466	136.3	1.52	2 4	-0.2	3	0.1	26	
80.449	133.8	1.42	2 7	0.0	3	0.0	26	
82.346	131.7	1.43	2 7	0.0	3	0.0	26	
84.530	132.9	1.53	2 7	0.0	3	0.0	26	
84.565	132.5	1.53	2 5	0.0	3	0.0	26	
87.555	129.6	1.63	2 6	-0.1	3	0.0	26	
87.558	129.7	1.61	2 7	-0.3	3	0.0	26	
87.572	130.6	1.74	2 5	-0.3	3	0.0	26	
87.575	130.7	1.61	2 7	-0.3	3	0.0	26	
77.599	138.9	1.31	3n	0.0			26-Inch	
79.780	135.4	1.44	3n	0.1			26-Inch	
83.813	132.4	1.50	3n	0.0			26-Inch	
87.565	130.2	1.65	4n	0.0			26-Inch	

Siegrist, 1952: +1.5, -0.04; -0.3, +0.02; -0.5, -0.03; +0.3, +0.01.
The later orbit by Scardia gives much worse residuals.

10078 A 2084 16 29.5 +16 36

80.449	146.0	0.47	1	6	0.0	3	0.4	26
81.579	138.5	0.47	2	7	0.0	3		26
85.526	141.1	0.43	2	6	0.0	3	0.0	26
82.518	141.9	0.46	3n		0.2			26-Inch

10085 HU 1173 16 30.0 +33 53

79.425	29.6	0.17	2	7	0.0	3		26
79.425	29.6	0.17	1n					26-Inch

Couteau, 1983: +5.7, +0.07.
Beize, 1985: -5.7, +0.06.

10087 STF 2055 16 30.9 +01 59

77.574	9.4	1.30	1	5	-0.2	4	1.6	26
77.593	7.8	1.10	1	7	-0.2	3	1.0	26
78.491	8.9	1.50	1	4	-0.2	3	1.8	26
78.510	9.6	1.13	1	6	0.0	3	1.7	26
80.618	12.7	1.20	1	7	+0.3	3	1.5	26
80.651	11.4	1.30	1	7	+0.7	3	1.5	26
80.654	11.7	1.23	1	8	+0.7	3	1.4	26
80.657	11.9	1.28	1	6	+0.7	3	1.0	26
84.530	15.4		1	7	+0.1	3	1.2	25
84.565	15.6	1.20	1	6	0.0	3	2.0	26
85.526	16.4	1.38	1	7	0.0	3	2.0	26
85.543	16.8	1.36	4	5	0.0	3	1.2	26
85.559	15.8	1.35	1	5	-0.3	3	1.0	26
87.555	16.2	1.12	1	6	0.0	3	1.4	26
87.558	19.7	1.25	2	7	-0.2	3	1.2	26
87.572	18.3	1.29	1	5	-0.2	3	1.0	26
87.575	18.6	1.34	4	7	-0.3	3	1.2	26
78.042	8.9	1.26	4n		1.5			26-Inch
80.645	11.9	1.25	4n		1.3			26-Inch
85.145	16.0	1.32	4n		1.5			26-Inch
87.565	18.2	1.25	4n		1.2			26-Inch

Finzi, Giannuzzi, 1955: -1.7, -0.05;
-1.5, -0.10;
-1.7, -0.09;
-1.7, -0.19.
Predicted separation is too large.

10103 A 1138 16 31.1 +57 56

77.535	168.0	0.47	1	6	0.0	3	1.3	26
78.529	158.8	0.47	1	6	0.0	3	1.0	26
78.551	166.8	0.54	1	7	0.0	3	1.2	26
78.205	164.5	0.49	3n		1.2			26-Inch

10094 STF 2056 16 31.6 +05 26

85.543	313.8	6.67	2	5	0.0	3	1.0	26
85.559	312.6	6.77	2	5	-0.2	3	1.2	26
85.587	314.4	6.70	2	6	-0.2	3	1.2	26
85.563	313.6	6.71	3n		1.1			26-Inch

FIN 248 16 31.7 -55 04

80.246	227.9	0.26	2	6	+0.2	3	0.0	36
80.251	235.2	0.24	2	7	+0.6	3	0.3	36
80.248	231.6	0.25	2n		0.2			36-Inch

10095 A 693 16 31.8 -02 16

80.251	320.5	0.12	2	6	+0.1	3		36
80.251	320.5	0.12	1n					36-Inch

The 1963 orbit by Heintz does not represent recent observed motion in this pair.

10092 STF 3105 16 31.8 -07 03

79.425	206.1	0.26	1	7	+0.1	3	0.2	26
80.449	204.4	0.33	2	7	0.0	3	0.0	26
80.654	205.2	0.28	1	8	+0.7	3	0.4	26
80.657	207.2	0.26	1	6	+0.8	3	0.4	26
85.589	198.1	0.34	1	6	-0.2	3	0.4	26
86.422	197.5	0.28	1	5	+0.1	3		26
86.449	197.5	0.31	1	5	-0.2	3		26
86.463	197.0	0.36	1	5	-0.1	3		26
80.296	205.7	0.28	4n		0.2			26-Inch
86.231	197.5	0.32	4n		0.4			26-Inch

Tokovinen, 1987: -0.7, -0.04; -0.7, -0.03.

10107 BU 817 16 32.5 +23 14

78.510	329.4	0.91	2	5	0.0	3	0.2	26
78.516	330.6	0.93	2	5	-0.2	3	0.1	26
78.526	327.6	0.93	2	6	-0.1	3	0.2	26
78.517	329.2	0.92	3n		0.2			26-Inch

10134 ROE 118 16 38.3 +07 53

86.449	37.3	6.17	2	6	-0.1	3	0.2	26
87.555	37.9	5.93	2	6	0.0	3	0.0	26
87.572	37.3	6.05	2	6	-0.2	3	0.0	26
87.192	37.5	6.05	3n		0.1			26-Inch

10136 HU 485 16 38.8 +22 45

75.501	278.7	4.30	2	6	-0.3	3	1.8	26
75.501	278.7	4.30	1n		1.8			26-Inch

10157 STF 2084 16 41.3 +31 35

77.535	161.1	1.28	4	6	0.0	3	2.5	26
77.574	163.0	1.23	4	5	-0.3	4	2.5	26
77.593	157.4	1.23	1	6	-0.3	3	2.5	26
77.631	159.6	1.13	1	8	+0.7	3	2.6	26
78.510	152.3	1.12	1	7	0.0	3	2.4	26
78.512	156.0	1.45	3	6	-0.1	3	1.8	26
78.516	151.6	1.18	2	5	-0.3	3	2.5	26
78.526	152.6	1.20	3	6	-0.2	3	2.5	26
79.425	142.8	1.13	2	7	+0.1	3	2.4	26
80.449	134.4	1.15	2	7	0.0	3	2.4	26
80.618	130.2	1.18	2	7	+0.1	3	2.5	26
80.654	131.5	1.23	2	8	+0.7	3	2.4	26
82.313	122.1	1.45	2	5	0.0	3	2.6	26
82.346	124.7	1.32	2	7	-0.1	3	2.5	26
84.530	109.5	1.39	2	7	+0.1	3		26
84.565	110.0	1.44	2	6	+0.1	3	2.8	26
85.526	105.1	1.56	2	8	+0.1	3	2.4	26
85.543	101.8	1.35	2	6	0.0	3	2.8	26
86.422	100.6	1.55	2	6	0.0	3	2.4	26
86.449	99.9	1.37	2	7	-0.3	3	2.4	26
86.463	101.0	1.50	2	7	-0.2	3	2.5	26
87.555	94.5	1.40	2	7	0.0	3	2.8	26
87.558	93.4	1.53	2	8	-0.3	3	3.0	26
87.572	93.8	1.55	2	6	-0.3	3	3.0	26
87.575	93.6	1.44	2	7	-0.3	3	2.8	26

77.583	160.3	1.22	4n	2.5	26-Inch
78.516	153.1	1.24	4n	2.3	26-Inch
80.286	134.7	1.17	4n	2.4	26-Inch
82.330	123.4	1.38	2n	2.6	26-Inch
85.041	106.6	1.44	4n	2.7	26-Inch
86.445	100.5	1.47	3n	2.4	26-Inch
87.565	93.8	1.48	4n	2.9	26-Inch

Baize, 1976: -0.3, +0.02; +0.3, +0.01; -5.0, -0.09; -2.3, +0.04; -2.9, -0.01; -1.4, -0.02; -2.4, -0.05.

10158 A 349 16 41.3 +30 06

82.313	175.1	0.47	2	6	+0.1	3	0.5	26
82.346	176.4	0.46	2	6	0.0	3	0.4	26
85.526	175.6	0.51	2	7	0.0	3	0.7	26

83.395	175.7	0.48	3n	0.5	26-Inch

Couteau, 1974: +4.8, -0.07.
Baize, 1983: +6.1, -0.03.

10165 HU 487 16 42.1 +21 52

76.405	229.6	0.24	2	5	0.0	4	0.0	26
78.526	231.4	0.22	2	6	-0.1	3	0.0	26
78.529	231.0	0.24	2	8	+0.1	3	0.1	26
78.551	233.5	0.20	2	7	+0.1	3	0.2	26

78.003	231.4	0.22	4n	0.1	26-Inch

FIN 251 16 43.8 -53 29

80.240	288.2	0.33	2	7	+0.2	3	0.0	36
80.246	285.8	0.32	2	6	+0.1	3	0.1	36

80.243	287.0	0.32	2n	0.0	36-Inch

Increase in angle. This is the only measure since discovery in 1930.

10188 D 15 16 43.9 +43 29

78.510	146.6	1.23	2	7	-0.1	3	0.1	26
78.512	145.8	1.21	2	5	0.0	3	0.2	26
78.516	145.8	1.21	2	7	-0.3	3	0.1	26
78.526	144.1	1.19	2	6	0.0	3	0.1	26
82.313	142.0	1.15	2	5	-0.1	3	0.0	26
82.346	140.2	1.15	2	5	-0.2	3	0.0	26
85.526	137.7	1.09	2	7	-0.1	3	0.0	26
85.543	138.6	1.00	2	6	0.0	3	0.1	26
86.463	138.2	1.13	2	7	-0.2	3	0.3	26
86.556	133.8	1.05	2	5	-0.2	3	0.2	26
87.555	133.5	0.93	2	6	-0.2	3	0.0	26
87.558	134.5	1.05	2	7	-0.4	3	0.2	26

78.516	145.6	1.21	4n	0.1	26-Inch
83.932	139.6	1.10	4n	0.0	26-Inch
87.033	135.0	1.04	4n	0.2	26-Inch

Wierzbinski, 1957: +2.2, +0.02; +0.9, 0.00; -0.5, +0.01.

FIN 250 16 44.2 -58 33

80.246	154.0	0.36	2	6	+0.2	3	0.0	36
80.251	156.8	0.33	2	7	+0.3	3	0.0	36

80.248	155.4	0.34	2n	0.0	36-Inch

Decrease in angle and separation.

10202 A 1864 16 45.4 +44 46

76.405	309.8	0.20	3	6	-0.1	4	0.0	26
77.535	314.3	0.22	2	6	0.0	3	0.1	26
78.516	305.5	0.18	2	7	-0.3	3	0.0	26

77.485	309.9	0.20	3n	0.0	26-Inch

Closed in with little angular change.

10196 A 1141 16 45.7 -00 46

78.529	5.2	0.15	1	8	+0.2	3		26
80.227	359.5	0.16	2	7	+0.1	3	0.0	60
80.230	1.5	0.18	1	6	0.0	3	0.0	60
80.232	359.4	0.17	1	4	0.0	3	0.0	60

78.529	5.2	0.15	1n		26-Inch
80.230	0.1	0.17	3n	0.0	60-Inch

Baize, 1976: +0.3, -0.04; -1.9, -0.01.
Heintz, 1982: -2.0, -0.03; -4.6, +0.01.

I 1595 16 47.7 -43 56

80.240	98.4	0.40	2	7	+0.3	3	0.0	36
80.246	106.6	0.24	2	5	+0.3	3		36
80.243	102.5	0.32	2n		0.0			36-Inch

10217 BU 43 16 48.3 +02 44

87.572	236.9	1.31	2	6	-0.3	3	0.0	26
87.575	235.6	1.28	2	7	-0.2	3	0.2	26
87.591	236.3	1.26	2	6	-0.1	3	0.0	26
87.632	238.1	1.36	2	5	+0.3	3		26
87.592	236.7	1.30	4n		0.1			26-Inch

10227 A 1866 BC 16 49.2 +45 59

77.535	26.5	0.23	2	6	0.0	3	0.0	26
77.535	26.5	0.23	1n		0.0			26-Inch

Popovic, 1969: -0.1, -0.03.

10229 STF 2106 16 51.2 +09 25

84.623	179.0	0.53	1	7	+0.2	3	1.5	26
85.559	172.3	0.46	1	5	-0.3	3	1.0	26
85.587	180.6	0.56	1	7	-0.5	3	1.2	26
85.589	180.9	0.62	1	6	-0.3	3	1.4	26
87.555	179.5	0.46	1	6	0.0	3	1.2	26
87.558	183.0	0.61	1	7	-0.3	3	1.2	26
87.572	181.1	0.57	1	6	-0.2	3	1.3	26
87.575	183.0	0.57	1	7	-0.2	3	0.8	26
85.340	178.2	0.54	4n		1.3			26-Inch
87.565	181.6	0.55	4n		1.1			26-Inch

Heintz, 1963: 0.0, -0.04; +4.4, -0.05.

10230 STT 315 16 51.4 +01 13

87.558	332.1	0.22	2	7	-0.3	3	1.5	26
87.572	329.9	0.22	2	6	-0.1	3	1.8	26
87.575	334.4	0.26	1	7	-0.2	3	1.8	26
87.591	335.0	0.27	1	6	-0.2	3	1.8	26
87.574	332.8	0.24	4n		1.7			26-Inch

Baize, 1984: +7.5, 0.00.

10235 STF 2107 16 51.9 +28 40

79.425	86.2	1.41	2	6	0.0	3	1.2	26
80.449	85.9	1.34	2	6	0.0	3	1.2	26
80.618	87.0	1.28	2	7	+0.1	3	1.0	26
85.589	88.2	1.20	2	6	-0.3	3	0.8	26
85.641	91.4	1.48	4	5	+0.3	3	1.4	26
85.644	89.3	1.40	2	5	+0.3	3	1.4	26
80.164	86.4	1.34	3n		1.1			26-Inch
85.625	89.6	1.36	3n		1.2			26-Inch

Rabe, 1927: -1.5, -0.03; -1.3, -0.03.
Scardia, 1984: -1.3, +0.04; -1.2, +0.04.

COU 492 16 53.9 +25 47

85.589	96.7	0.49	1	2	-0.3	3	0.3	26
86.422	93.8	0.49	2	6	0.0	3	0.3	26
86.449	96.3	0.47	2	5	-0.2	3	0.0	26
86.153	95.6	0.48	3n		0.2			26-Inch

10253 A 350 16 54.0 +29 06

82.313	148.9	0.48	2	5	0.0	3	0.4	26
82.346	148.4	0.46	2	7	-0.1	3	0.3	26
85.526	144.5	0.49	2	7	-0.1	3	0.2	26
83.395	147.3	0.48	3n		0.3			26-Inch

KUI 75 16 55.5 -08 19

80.224	260.4	0.22	2	5	0.0	3	0.2	60
80.227	266.8	0.20	2	5	+0.1	3		60
80.230	269.2	0.20	2	7	-0.1	3	0.2	60
80.227	265.5	0.21	3n		0.2			60-Inch

Heintz, 1984: +3.1, -0.01.

10260 STF 3106 16 55.6 -05 11

79.425	256.7	2.06	2	6	0.0	3	0.1	26
80.449	255.0	1.94	2	7	0.0	3	0.2	26
81.579	256.2	2.04	2	6	-0.1	3	0.1	26
80.484	256.0	2.01	3n		0.1			26-Inch

10257 BU 241 16 55.6 -21 34

80.251	8.6	0.35	2	8	+0.1	3	0.2	36
80.251	8.6	0.35	1n		0.2			36-Inch

10279 STF 2118 16 55.9 +65 11

81.579	70.6	1.23	2	6	-0.1	3	0.3	26
81.637	72.8	1.04	2	6	-0.2	3	0.4	26
81.645	73.2	1.08	2	5	+0.2	3	0.3	26
81.650	71.0	1.10	2	6	+0.3	3		26
85.543	70.4	1.04	2	6	-0.2	3	0.5	26
85.559	72.1	0.96	2	5	-0.3	3	0.5	26
85.587	70.5	1.09	2	5	-0.3	3	0.5	26
85.589	69.4	0.99	2	6	-0.2	3	0.0	26
81.628	71.9	1.11	4n		0.3			26-Inch
85.570	70.6	1.02	4n		0.4			26-Inch

Scardia, 1981: +2.5, -0.07; +1.5, -0.18.

10268 HU 160 16 56.5 +10 15

82.313	206.8	0.39	2	5	0.0	3	0.6	26
82.346	205.3	0.45	2	7	-0.1	3	0.3	26
85.526	204.7	0.44	2	7	0.0	3	0.6	26
83.395	205.6	0.43	3n		0.5			26-Inch

10276 A 1143 AB 16 56.6 +57 11

85.543	260.2	0.41	2	6	0.0	3	0.3	26
85.587	260.9	0.42	2	5	-0.2	3	0.3	26
85.589	259.6	0.32	2	6	-0.2	3	0.2	26
85.573	260.2	0.38	3n	0.3			26-Inch	

Heintz, 1974: +2.8, -0.02.
Starikova, 1983: +2.6, 0.00.

CD

85.559	144.5	0.63	2	5	-0.2	3		26
85.587	144.9	0.73	2	5	-0.2	3	0.1	26
85.589	142.1	0.61	2	5	-0.1	3	0.4	26
85.578	143.8	0.66	3n	0.2			26-Inch	

10265 BU 1117 16 56.8 -23 09

80.251	299.0	1.00	2	8	-0.1	3	0.2	36
80.251	299.0	1.00	1n	0.2			36-Inch	

COU 1772 16 57.6 +49 35

86.463	83.1	0.23	2	6	-0.2	3		26
87.575	82.3	0.25	2	7	-0.2	3	0.0	26
87.591	82.0	0.26	2	6	-0.1	3	0.0	26
87.210	82.5	0.25	3n	0.0			26-Inch	

10284 STF 2112 16 58.2 +31 47

76.262	263.8	2.19	2	4	-0.2	3	0.5	26
76.405	262.1	2.08	2	7	0.0	4	1.0	26
77.535	262.3	2.05	2	7	0.0	3	0.4	26
76.734	262.7	2.11	3n	0.6			26-Inch	

10293 HU 667 16 58.3 +47 53

75.498	166.3	2.36	1	6	-0.2	3	1.2	26
75.575	167.9	2.15	2	7	+0.1	3	3.0	26
77.535	167.8	2.22	2	7	0.0	3	2.5	26
76.203	167.3	2.24	3n	2.2			26-Inch	

10261 OL 99 16 58.6 -18 03

80.224	127.2	3.01	2	5	+0.1	3	2.5	60
80.227	129.2	2.88	2	6	+0.2	3	2.5	60
80.226	128.2	2.94	2n	2.5			60-Inch	

10285 STF 3107 16 58.9 +03 58

86.422	77.9	1.52	2	6	0.0	3	0.1	26
86.449	79.9	1.43	2	5	-0.2	3		26
86.463	78.8	1.50	2	5	0.0	3	0.3	26
86.445	78.9	1.48	3n	0.2			26-Inch	

10287 HU 162 16 59.3 -16 54

80.230	218.2	0.62	2	7	0.0	3	0.0	60
80.232	216.9	0.63	2	5	-0.1	3	0.0	60
80.231	217.6	0.62	2n	0.0			60-Inch	

SEE 316 17 00.5 -48 39

80.246	174.3	0.94	2	5	+0.2	3	1.0	36
80.251	170.0	0.88	2	7	+0.2	3	0.9	36
80.248	172.2	0.91	2n	1.0			36-Inch	

10312 STF 2114 17 02.0 +08 27

80.654	185.8	1.21	2	8	+0.4	3	0.6	26
80.659	187.1	1.25	1	8	+0.7	3	0.7	26
80.676	186.8	1.26	1	7	+0.3	3	0.8	26
86.422	187.0	1.35	1	6	0.0	3	0.5	26
86.449	187.3	1.14:	1	5	-0.1	3		26
86.463	187.0	1.46	1	5	-0.1	3	0.8	26
86.657	186.3	1.37	1	5	+0.2	3	1.0	26
80.663	186.6	1.24	3n	0.7			26-Inch	
86.498	186.9	1.33	4n	0.8			26-Inch	

10340 A 1146 17 03.6 +69 48

81.579	127.4	0.31	2	6	-0.1	3	0.0	26
81.615	130.5	0.30	2	4	+0.3	3	0.0	26
81.631	127.7	0.34	2	6	0.0	3	0.3	26
81.637	131.9	0.35	2	6	0.0	3	0.2	26
81.616	129.4	0.33	4n	0.1			26-Inch	

Heintz, 1975: +3.7, +0.01.

10328 J 449 17 05.1 +01 47

76.405	300.4	1.79	2	6	0.0	4	0.8	26
76.613	302.8	1.76	2	7	0.0	3	0.8	26
77.535	302.6	1.67	2	7	+0.1	3	0.8	26
76.851	301.9	1.74	3n	0.8			26-Inch	

10345 STF 2130 17 05.4 +54 28

77.574	48.9	2.00	2	5	-0.5	4	0.2	26
77.593	49.0	2.01	2	7	-0.5	3	0.1	26
77.631	49.6	2.04	2	7	+0.1	3	0.1	26
80.449	46.4	1.96	2	8	0.0	3	0.3	26
80.618	46.2	2.04	2	6	+0.1	3	0.2	26
80.651	43.1	2.05	2	7	+0.3	3	0.0	26
81.579	44.2	2.09	2	6	-0.1	3	0.4	26
81.615	43.9	2.01	2	5	+0.2	3	0.4	26
81.631	44.0	2.14	2	4	-0.5	3	0.3	26
81.637	44.0	2.09	2	6	-0.5	3	0.2	26
85.526	38.1	2.07	2	6	0.0	3	0.2	26
85.543	38.7	2.20	2	5	-0.1	3	0.2	26
85.559	40.3	2.07	2	5	-0.1	3	0.3	26
85.587	37.9	2.14	2	6	-0.2	3	0.1	26
87.558	36.0	2.08	2	8	-0.2	3	0.2	26
87.572	34.8	2.03	2	7	-0.3	3	0.2	26
87.575	34.9	2.00	2	7	-0.2	3	0.1	26
87.591	36.2	2.07	2	7	-0.2	3	0.0	26

77.599	49.2	2.02	3n	0.1	26-Inch
80.573	45.2	2.02	3n	0.2	26-Inch
81.616	44.0	2.08	4n	0.3	26-Inch
85.554	38.8	2.12	4n	0.2	26-Inch
87.574	35.5	2.04	4n	0.1	26-Inch

Heintz, 1981: +0.8, -0.03; +1.0, -0.04; +1.3, +0.02; +1.7, +0.04; +1.3, -0.05.
Scardia, 1980: +0.6, 0.00; +1.0, +0.01; +1.3, +0.07; +2.1, +0.12; +1.8, +0.04.

10336 BU 357 17 05.5 +10 33

77.574	307.4	1.36	2	5	-0.3	4	1.8 26
78.512	306.8	1.42	2	6	0.0	3	1.3 26
78.516	308.9	1.35	2	6	-0.2	3	1.8 26
78.201	307.7	1.38	3n		1.6		26-Inch

10366 AG 352 17 06.0 +71 02

82.346	61.7	1.50	2	6	-0.1	3	0.0 26
85.526	61.3	1.44	2	6	0.0	3	0.0 26
85.559	62.6	1.47	2	5	0.0	3	0.0 26
84.477	61.9	1.47	3n		0.0		26-Inch

10341 BU 823 17 06.6 +00 39

80.449	120.4	0.87	2	6	-0.1	3	0.8 26
80.654	122.2	0.95	2	8	+0.5	3	0.8 26
80.657	122.3	0.88	2	6	+0.5	3	0.8 26
80.659	120.8	0.82	2	8	+0.8	3	0.8 26
84.623	124.7	0.90	2	6	+0.1	3	0.5 26
85.587	128.6	0.85	2	6	-0.1	3	0.9 26
85.589	128.5	0.91	2	6	-0.1	3	1.0 26
85.644	130.6	0.90	2	5	-0.2	3	0.8 26
80.605	121.4	0.88	4n		0.8		26-Inch
85.361	128.1	0.89	4n		0.8		26-Inch

Arend, 1956: +2.7, -0.12; +4.4, -0.16.

10367 HU 918 17 07.4 +62 28

81.579	118.6	0.29	2	6	0.0	3	26
82.313	122.1	0.31	2	5	0.0	3	0.4 26
82.346	131.2	0.29	2	7	-0.1	3	0.3 26
82.079	124.0	0.30	3n		0.3		26-Inch

10358 A 2237 17 08.8 +00 02

77.574	67.7	0.94	2	5	-0.2	4	2.2 26
78.512	69.4	0.82	2	6	0.0	3	1.5 26
78.529	68.0	0.92	2	8	0.0	3	2.4 26
78.205	68.4	0.89	3n		2.0		26-Inch

10374 BU 1118 17 10.3 -15 44

80.224	269.4	0.37	2	5	0.0	3	60
80.227	267.2	0.45	2	6	+0.1	3	60
80.226	268.3	0.41	2n				60-Inch

Van Biesbroeck, 1960: -0.5, +0.03.

LPM 629 17 11.9 -01 51

80.230	85.0	0.69	2	7	-0.1	3	0.2	60
80.232	85.6	0.90	2	5	-0.2	3	0.2	60
80.231	85.3	0.80	2n		0.2			60-Inch

Rapid motion.

KUI 79 17 12.1 +45 44

77.535	160.4	0.31	2	8	0.0	3	0.2 26
77.574	158.4	0.36	2	5	-0.4	4	0.2 26
77.593	154.9	0.33	3	6	-0.4	3	0.3 26
77.631	151.1	0.35	3	6	+0.1	3	0.4 26
78.510	336.4	0.28	2	7	-0.2	3	0.2 26
78.512	334.6	0.28	2	7	-0.3	3	0.4 26
78.516	341.4	0.33	2	5	-0.4	3	0.3 26
78.526	331.8	0.30	2	6	-0.4	3	0.2 26
78.529	332.0	0.29	2	8	0.0	3	0.4 26
78.551	332.1	0.30	2	7	-0.3	3	0.2 26
80.449	276.0	0.71	2	7	0.0	3	0.2 26
81.579	266.2	1.01	2	7	0.0	3	0.2 26
81.637	263.9	0.92	2	6	0.0	3	0.2 26
82.313	258.8	0.96	2	5	-0.1	3	0.4 26
82.346	255.7	0.86	2	7	0.0	3	0.5 26
85.526	233.9	1.15	2	5	-0.1	3	0.2 26
85.543	234.7	1.25	2	5	0.0	3	0.2 26
85.559	234.9	1.08	2	5	0.0	3	0.4 26
85.587	232.8	1.12	2	7	-0.2	3	0.8 26
86.422	226.6	1.09	2	6	-0.1	3	26
86.449	225.5	1.05	2	5	-0.2	3	26
86.463	221.8	1.20	2	6	-0.1	3	0.4 26
87.555	217.8	0.79	2	6	-0.2	3	0.5 26
87.558	216.8	1.09	2	7	-0.2	3	0.5 26
87.572	216.0	0.85	2	6	-0.2	3	0.7 26
87.575	215.0	0.95	2	7	-0.2	3	0.5 26
77.583	156.2	0.34	4n		0.3		26-Inch
78.524	334.7	0.30	6n		0.3		26-Inch
81.205	268.7	0.88	3n		0.2		26-Inch
82.330	257.2	0.91	2n		0.4		26-Inch
85.554	234.1	1.15	4n		0.4		26-Inch
86.445	224.6	1.11	3n		0.4		26-Inch
87.565	216.4	0.92	4n		0.5		26-Inch

Baize, 1952: +2.8, +0.02; -8.2, +0.01; +1.6, 0.00; +0.9, -0.07; +1.2, +0.04; -1.9, +0.04; -1.1, -0.06.

COU 314 17 12.9 +23 12

85.589	1.7	1.78	1	6	-0.1	3	0.3 26
86.422	2.0	1.99	1	6	0.0	3	0.2 26
86.463	1.1	1.87	2	6	0.0	3	0.6 26
86.158	1.6	1.88	3n		0.4		26-Inch

10410 STF 2146 17 13.0 +54 07

87.558	225.0	2.75	2	7	-0.2	3	2.0	26
87.572	224.3	2.53	2	6	-0.2	3	1.8	26
87.575	224.5	2.81	2	7	-0.1	3	1.8	26
87.568	224.6	2.70	3n	1.9			26-Inch	

10398 STT 325 17 13.0 +07 45

81.653	247.5	0.34	2	8	0.0	3	1.8	26
81.656	246.0	0.45	2	7	+0.1	3	1.5	26
85.543	246.8	0.40	2	5	0.0	3	1.5	26
85.587	247.8	0.34	2	6	-0.1	3	1.5	26
85.589	254.5	0.31	2	6	-0.1	3	1.3	26
84.006	248.5	0.37	5n	1.5			26-Inch	

Becoming a difficult pair as it closes in.

10425 STT 327 17 14.1 +56 08

78.510	294.3	0.17	2	6	-0.2	3	0.0	26
78.512	294.0	0.18	2	6	0.0	3	0.0	26
78.516	296.6	0.16	2	6	-0.2	3	0.0	26
78.526	290.5	0.17	2	5	-0.3	3	0.0	26
87.558	316.6	0.33	2	7	-0.2	3	0.2	26
87.572	319.2	0.28	2	6	-0.1	3	0.3	26
87.575	316.9	0.32	2	6	0.0	3		26
87.591	311.9	0.31	2	7	-0.2	3	0.0	26
78.516	293.8	0.17	4n	0.0			26-Inch	
87.574	316.2	0.31	4n	0.1			26-Inch	

Heintz, 1976: +8.4, +0.02; +5.7, +0.01.

10426 HU 489 17 15.5 +20 07

82.313	35.7	0.99	2	5	0.0	3	0.6	26
85.526	37.8	0.96	2	6	0.0	3	0.6	26
85.587	39.7	0.98	2	6	0.0	3	1.0	26
84.475	37.7	0.98	3n	0.7			26-Inch	

10423 A 2592 17 15.7 -09 49

80.230	232.2	0.42	2	6	0.0	3	0.4	60
80.232	230.8	0.32	2	6	-0.1	3	0.2	60
80.231	231.5	0.37	2n	0.3			60-Inch	

Heintz, 1978: -1.6, -0.04.

10429 A 2984 17 16.5 -00 27

80.449	357.8	1.04	1	6	+0.1	3	2.5	26
80.618	353.8	1.14	1	5	+0.1	3	2.3	26
80.651	355.8	1.04	1	7	+0.2	3	2.4	26
80.573	355.8	1.07	3n	2.4			26-Inch	

10450 BU 629 17 17.4 +32 06

81.579	339.5	1.32	2	4	-0.2	3	0.8	26
85.526	344.2	1.22	2	6	+0.1	3	0.8	26
85.543	344.0	1.17	2	5	0.0	3	0.4	26
84.216	342.6	1.24	3n	0.7			26-Inch	

10460 STF 2153 17 18.0 +49 19

78.510	254.3	1.55	2	7	-0.2	3	0.3	26
78.512	254.7	1.61	2	7	0.0	3	0.2	26
78.516	254.4	1.60	2	6	-0.1	3	0.3	26
78.513	254.5	1.59	3n	0.3			26-Inch	

10469 SWI 17 18.2 +53 38

87.555	170.7	0.40	2	6	-0.1	3		26
87.558	168.2	0.49	2	7	0.0	3	0.4	26
87.572	171.9	0.37	2	6	0.0	3	0.4	26
87.575	165.0	0.48	2	6	-0.1	3	0.3	26
87.565	169.0	0.44	4n	0.4			26-Inch	

10459 BU 628 17 18.3 +32 40

82.313	290.5	0.38	2	5	+0.1	3	0.5	26
82.346	291.1	0.33	2	7	0.0	3	0.6	26
85.587	284.1	0.38	2	6	0.0	3	0.5	26
83.415	288.6	0.36	3n	0.5			26-Inch	

Zulevic, 1986: +5.4, -0.01.

MLO 4 17 18.7 -34 59

80.240	320.0	1.51	2	7	-0.1	3	0.4	36
80.246	322.8	1.42	2	5	0.0	3	0.7	36
80.251	319.6	1.48	2	7	0.0	3	0.8	36
80.246	320.8	1.47	3n	0.6			36-Inch	

Hirst, 1943: +3.0, +0.05.

10480 A 2593 17 20.7 -07 06

80.240	155.6	0.27	2	7	+0.1	3	0.1	36
80.246	158.1	0.25	2	5	+0.1	3		36
80.251	157.7	0.24	2	7	+0.1	3	0.0	36
80.246	157.1	0.25	3n	0.0			36-Inch	

Heintz, 1986: -3.2, -0.01.

KUI 80 17 21.6 +28 45

84.623	155.0	0.56	3	6	+0.1	3	2.4	26
85.587	165.3	0.60	2	6	0.0	3	2.2	26
85.644	167.6	0.50	2	6	+0.1	3	2.0	26
85.285	162.6	0.55	3n	2.2			26-Inch	

10506	ROE 108			17 22.2	+30 10				
86.422	2.3	6.10	2	6	-0.1	3	0.2	26	
87.558	3.0	5.97	2	7	-0.1	3	0.2	26	
87.575	3.0	5.97	2	7	-0.1	3	0.0	26	
87.185	2.8	6.01	3n	0.1		26-Inch			
10516	A 2183			17 23.5	+16 54				
82.346	130.7	1.07	2	7	-0.1	3	3.0	26	
85.559	129.7	1.15	2	6	0.0	3	2.4	26	
85.587	130.7	1.21	2	6	0.0	3	1.8	26	
84.497	130.4	1.14	3n	2.4		26-Inch			
10509	HLD 133			17 23.6	-21 43				
80.246	167.6	0.99	2	5	+0.1	3	0.4	36	
80.251	168.8	1.03	2	6	+0.1	3	0.4	36	
80.248	168.2	1.01	2n	0.4		36-Inch			
10521	HU 671			17 23.8	+21 55				
85.589	267.3	0.76	2	6	-0.1	3	0.6	26	
85.641	273.9	0.82	2	5	-0.2	3	0.6	26	
85.644	271.4	0.82	2	6	0.0	3	0.6	26	
85.625	270.9	0.80	3n	0.6		26-Inch			
10543	FOX 78			17 23.9	+60 14				
78.510	227.0	0.97	2	6	-0.2	3	0.6	26	
78.512	227.4	1.08	2	6	0.0	3	0.7	26	
78.516	226.3	0.99	2	6	-0.1	3	0.8	26	
78.513	226.9	1.01	3n	0.7		26-Inch			
10515	BU 242			17 24.0	-11 42				
77.535	78.4	0.98	2	5	-0.1	3	0.5	26	
78.526	76.1	1.05	2	5	-0.3	3	0.6	26	
78.529	78.1	1.02	2	6	0.0	3	0.8	26	
78.197	77.5	1.02	3n	0.6		26-Inch			
10528	STF 2160			17 24.5	+15 37				
84.648	67.2		2	6	-0.1	3	2.8	26	
85.543	67.9	3.83	2	5	0.0	3	1.7	26	
85.589	65.8	3.80	2	6	-0.1	3	3.2	26	
85.641	67.2	3.80	2	6	0.0	3	3.0	26	
85.355	67.0	3.81	3n	2.7		26-Inch			
10540	BU 1250			17 24.8	+30 44				
78.526	103.0	1.94	2	5	-0.1	3	0.3	26	
78.529	103.6	1.79	2	7	+0.3	3	0.1	26	
78.551	103.3	1.74	2	7	-0.3	3	0.2	26	
87.555	108.1	1.69	2	5	0.0	3	0.6	26	
87.558	109.8	2.07	2	7	0.0	3	0.5	26	
87.575	110.3	2.17	2	6	0.0	3	0.6	26	
87.591	111.1	2.20	2	6	-0.2	3	0.3	26	
78.535	103.3	1.82	3n	0.2		26-Inch			
87.570	109.8	2.03	4n	0.5		26-Inch			
10544	A 2089			17 25.0	+47 02				
76.613	335.2	0.56	1	6	0.0	3	0.4	26	
77.574	336.6	0.69	2	5	-0.3	4	0.3	26	
77.593	337.6	0.62	2	6	-0.5	3	0.6	26	
77.260	336.5	0.62	3n	0.4		26-Inch			
10566	HO 68			17 26.2	+63 11				
78.510	234.7	1.97	2	7	-0.1	3	0.1	26	
78.512	237.1	2.01	2	6	0.0	3	0.0	26	
78.516	237.2	1.93	2	6	-0.1	3	0.0	26	
78.513	236.3	1.97	3n	0.0		26-Inch			
10573	BU 1201			17 26.3	+67 46				
77.593	334.5	0.23	1	6	-0.5	3	0.2	26	
78.510	339.5	0.22	2	7	0.0	3	0.1	26	
78.512	346.9	0.24	2	6	0.0	3	0.0	26	
78.516	343.3	0.21	1	5	0.0	3	0.2	26	
78.283	341.0	0.22	4n	0.1		26-Inch			
	I 1322			17 26.9	-24 23				
80.246	96.6	0.34	2	5	+0.1	3	0.3	36	
80.251	103.2	0.34	2	6	+0.2	3	0.4	36	
80.248	99.9	0.34	2n	0.4		36-Inch			
Direct motion.									
	COU 498			17 27.6	+26 24				
85.559	61.8	0.31	2	6	+0.1	3	0.3	26	
85.587	43.1	0.36	2	6	+0.1	3	0.2	26	
86.463	43.2	0.35	2	5	-0.1	3		26	
85.870	49.4	0.34	3n	0.2		26-Inch			
10560	A 2184			17 27.6	+16 27				
78.526	25.0	1.48	2	6	-0.1	3	2.5	26	
78.529	21.0	1.55	2	7	+0.2	3	2.5	26	
78.551	26.2	1.56	2	7	-0.2	3	2.8	26	
87.558	24.2	1.64	2	7	0.0	3	3.0	26	
87.575	21.0	1.62	1	7	0.0	3	3.0	26	
87.591	24.3	1.63	2	7	-0.2	3	3.0	26	
87.632	28.6	1.51	2	5	-0.2	3	1.8	26	
78.535	24.1	1.53	3n	2.6		26-Inch			
87.589	24.5	1.60	4n	2.7		26-Inch			

10561 A 2244 17 28.3 -20 58

80.230	74.0	0.17	2	7	+0.1	3	0.0	60
80.232	70.5	0.18	2	6	-0.2	3	0.0	60
80.231	72.2	0.18	2n		0.0		60-Inch	

Muller, 1955: +3.0, -0.02.

10579 HU 176 17 29.3 +08 11

80.449	147.7	0.28	2	7	0.0	3	0.0	26
81.653	159.1	0.28	2	8	0.0	3	0.2	26
81.656	149.7	0.30	2	7	+0.1	3	0.2	26
84.623	141.2	0.26	2	7	+0.1	3	0.0	26
84.648	152.8	0.25	2	7	0.0	3	0.2	26
85.589	144.5	0.25	2	6	0.0	3		26
81.253	152.2	0.29	3n		0.1		26-Inch	
84.953	146.2	0.25	3n		0.1		26-Inch	

10576 STF 2171 17 29.3 -10 00

78.526	63.7	1.39	2	5	0.0	3	0.1	26
78.529	63.2	1.50	2	6	+0.1	3	0.1	26
78.551	64.2	1.40	2	7	-0.1	3	0.1	26
78.535	63.7	1.43	3n		0.1		26-Inch	

10585 A 351 17 29.4 +29 24

76.613	218.8	0.15	3	7	+0.1	4	0.2	26
77.535	226.2	0.24	1	8	-0.1	3	0.3	26
77.574	231.1	0.23	2	6	-0.1	4	0.2	26
77.593	229.6	0.24	2	6	-0.4	3	0.4	26
82.346	244.0	0.41	2	7	-0.1	3	0.5	26
85.589	250.4	0.63	2	7	0.0	3	0.3	26
85.641	248.0	0.65	2	6	0.0	3	0.5	26
85.644	248.5	0.65	2	6	0.0	3	0.6	26
77.329	226.4	0.22	4n		0.3		26-Inch	
84.805	247.7	0.58	4n		0.5		26-Inch	

Baize, 1955: +1.7, +0.02; +4.8, +0.01.

10598 STF 2173 17 30.4 -01 04

77.535	14.7	0.25	1	6	-0.2	3	0.0	26
77.574	11.2	0.27	1	5	0.0	4	0.2	26
77.593	9.7	0.25	1	6	0.0	3	0.3	26
77.631	13.3	0.29	1	6	0.0	3	0.3	26
78.510	0.8	0.30	1	7	0.0	3	0.4	26
78.512	5.3	0.28	1	6	+0.1	3	0.2	26
78.516	0.8	0.27	1	6	0.0	3	0.3	26
78.526	358.2	0.26	1	5	0.0	3	0.2	26
79.425	355.4	0.34	1	6	-0.5	3		26
80.449	350.9	0.43	1	7	0.0	3	0.2	26
80.618	347.8	0.49	1	5	0.0	3	0.0	26
80.651	351.3	0.50	1	6	0.0	3		26
81.579	346.5	0.65	2	5	0.0	3		26
81.615	343.6	0.56	2	5	0.0	3	0.3	26
81.631	349.1	0.65	1	6	-0.3	3	0.2	26
81.637	347.9	0.64	1	6	-0.2	3	0.3	26
82.313	346.6	0.69	1	5	0.0	3	0.3	26
82.346	345.1	0.64	1	7	0.0	3	0.3	26
85.543	335.7	0.91	2	5	0.0	3	0.0	26
85.559	338.5	0.93	2	7	+0.2	3	0.1	26
85.587	337.5	0.96	2	7	0.0	3	0.0	26
85.641	337.7	1.01	2	6	-0.1	3	0.0	26
86.422	339.9	1.12	1	6	-0.1	3	0.0	26
86.463	341.2	1.02	2	7	-0.1	3	0.3	26
86.657	335.9	1.07	2	5	0.0	3		26
86.660	337.0	0.95	2	7	-0.3	3		26
87.555	336.8	0.91	2	6	0.0	3	0.0	26
87.558	336.1	1.09	2	7	0.0	3		26
87.572	335.2	1.00	2	6	0.0	3	0.3	26
87.575	338.3	1.05	2	7	0.0	3	0.0	26
77.583	12.2	0.26	4n		0.2		26-Inch	
78.516	1.3	0.28	4n		0.3		26-Inch	
80.286	351.4	0.44	4n		0.1		26-Inch	
81.616	346.8	0.62	4n		0.3		26-Inch	
82.330	345.8	0.66	2n		0.3		26-Inch	
85.582	337.4	0.95	4n		0.0		26-Inch	
86.550	338.5	1.04	4n		0.1		26-Inch	
87.565	336.6	1.01	4n		0.1		26-Inch	

Wilson, 1976: -0.4, -0.01; +0.5, -0.09;
+1.5, -0.12; +1.3, -0.07;
+2.0, -0.10; -1.1, -0.06;
+1.0, -0.02; +0.2, -0.09.

10600 A 30 AB 17 30.9 -05 38

81.579	243.7	0.43	2	6	+0.1	3	0.2	26
81.631	242.5	0.48	2	6	-0.3	3	0.2	26
81.637	248.6	0.41	2	6	0.0	3	0.1	26
81.616	244.9	0.44	3n		0.2		26-Inch	

ABXC

81.579	7.6	3.80	1	5	+0.2	3	2.5	26
81.631	12.3	3.68	2	6	-0.2	3	3.0	26
81.637	7.2	3.63	1	6	+0.1	3	2.2	26
81.616	9.0	3.70	3n		2.6		26-Inch	

10614 STT 331 17 32.0 +02 50

87.591	348.6	1.08	3	6	-0.1	3	1.6	26
87.632	349.4	1.00	1	5	-0.1	3	1.2	26
87.635	349.6	1.14	4	6	-0.1	3	1.5	26
87.667	349.7	1.01	1	5	0.0	3	1.2	26
87.631	349.3	1.04	4n		1.4		26-Inch	

10631 A 1877 17 33.9 +14 46

78.551	46.5	0.59	2	7	0.0	3	0.6	26
85.526	52.1	0.49	4	7	0.0	3	0.6	26
85.589	50.5	0.61	2	6	0.0	3	0.5	26
83.222	49.7	0.56	3n		0.6		26-Inch	

10660 BU 962 17 35.0 +61 53

87.591	346.9	1.39	3	6	-0.5	3	3.5	26
87.632	347.4	1.31	2	4	-0.1	3	2.5	26
87.635	345.8	1.43	3	6	-0.1	3	2.5	26
87.619	346.7	1.38	3n		2.8		26-Inch	

Baize, 1965: +2.6, +0.01.

10650 STF 2186 17 35.9 +01 00

87.558	79.3	2.98	2	8	0.0	3	0.0	26
87.572	79.4	2.98	2	7	0.0	3	0.0	26
87.575	79.1	2.95	2	7	0.0	3	0.0	26
87.568	79.3	2.97	3n		0.0		26-Inch	

10657 HU 751 17 36.8 -20 58

80.230	197.9	0.13	2	6	-0.1	3		60
80.232	197.7	0.12	2	6	-0.1	3		60
80.231	197.8	0.12	2n				60-Inch	

Last measure in 1963. Rapid direct motion.

KUI 83 17 37.0 +27 53

77.535	82.3	0.28	2	6	0.0	3	0.3	26
77.574	85.7	0.29	2	6	-0.3	4	0.4	26
77.593	90.0	0.30	2	6	-0.4	3	0.3	26
77.631	85.0	0.34	2	7	0.0	3	0.3	26
78.510	71.6	0.28	2	6	0.0	3	0.4	26
78.512	72.3	0.29	2	6	+0.2	3	0.3	26
78.516	72.2	0.27	2	7	0.0	3	0.4	26
78.526	77.5	0.24	2	6	0.0	3	0.3	26
78.551	71.3	0.23	2	7	0.0	3	0.2	26
80.449	41.2	0.24	2	6	0.0	3	0.3	26
81.579	27.9	0.27	2	5	+0.2	3		26
81.631	19.4	0.23	2	6	-0.1	3	0.2	26
81.637	27.5	0.29	2	5	0.0	3	0.3	26
82.346	17.4	0.25	2	8	0.0	3	0.3	26
85.526	300.1	0.20	2	7	0.0	3		26
85.559	296.3	0.23	2	7	+0.2	3	0.2	26
85.587	292.8	0.20	2	6	0.0	3	0.2	26
85.641	294.4	0.21	2	6	0.0	3		26
86.422	276.7	0.20	2	6	0.0	3		26
86.463	274.2	0.20	2	5	0.0	3		26
77.583	85.8	0.30	4n		0.3		26-Inch	
78.523	73.0	0.26	5n		0.3		26-Inch	
81.528	26.7	0.26	5n		0.3		26-Inch	
85.578	295.9	0.21	4n		0.2		26-Inch	
86.442	275.4	0.20	2n				26-Inch	

Baize, 1972: +3.3, +0.01; + 2.2, -0.02;
-1.1, +0.01; -12.6, 0.00;
-12.3, 0.00.

10677 HO 420 17 37.8 +36 59

81.631	105.3	1.64	2	6	-0.1	3	0.1	26
85.641	108.1	1.55	2	5	0.0	3		26
85.644	106.4	1.84	2	6	+0.1	3	0.2	26
84.305	106.6	1.68	3n		0.2		26-Inch	

10668 B 350 17 38.1 -24 57

80.246	338.6	0.50	2	5	+0.1	3	0.4	36
80.251	338.4	0.42	2	7	+0.1	3	0.2	36
80.248	338.5	0.46	2n		0.3		36-Inch	

WOR 7 17 38.7 +71 19

72.396	289.0	10.45	2	6	0.0	3	4.0	26
77.535	279.8	9.29	2	6	+0.1	3	4.0	26
72.396	289.0	10.45	1n		4.0		26-Inch	
77.535	279.8	9.29	1n		4.0		26-Inch	

These measures, together with the discovery one, show the pair to be optical.

10700 ROE 96 17 40.0 +12 53

85.543	68.0	7.23	2	5	-0.1	3	0.7	26
85.641	70.8	7.19	2	5	+0.2	3	0.7	26
85.644	67.9	6.89	2	6	+0.2	3	0.3	26
85.609	68.9	7.10	3n		0.6		26-Inch	

This is the only measure since discovery in 1916. Probably optical.

COU 114 17 41.7 +21 30

87.558	27.9	0.28	2	8	0.0	3	0.8	26
87.572	28.7	0.30	2	7	0.0	3	1.2	26
87.575	29.6	0.27	2	6	+0.1	3	1.0	26
87.591	32.8	0.29	2	6	-0.2	3	1.4	26
87.574	29.8	0.28	4n		1.1		26-Inch	

10742 HO 560 17 43.4 +33 56

81.645	87.3	1.26	2	5	-0.4	3	0.1	26
81.650	87.7	1.19	2	6	0.0	3	0.0	26
81.653	86.0	1.12	2	8	-0.2	3	0.1	26
81.649	87.0	1.19	3n		0.1		26-Inch	

10743 HU 1285 17 43.6 +22 36

81.645	223.9	0.50	2	5	-0.3	3	0.3	26
81.650	221.7	0.52	2	6	0.0	3	0.4	26
81.653	221.0	0.55	2	8	-0.1	3	0.2	26
81.649	222.2	0.52	3n		0.3		26-Inch	

HDO 275 17 44.3 -72 13

80.246	257.6	0.40	2	5	+0.1	3	0.0	36
80.251	256.5	0.44	2	6	+0.1	3	0.2	36
80.248	257.0	0.42	2n		0.1		36-Inch	

Heintz, 1978: +1.3, -0.08.

10756	STF 2206		17 44.6 +18 59				
81.645	251.5	0.97	2	5	-0.1	3	0.8 26
81.650	251.6	0.97	2	6	+0.1	3	0.8 26
81.653	251.1	1.09	2	8	0.0	3	0.8 26
81.649	251.4	1.01	3n	0.8			26-Inch

10794	HU 924		17 44.9 +66 28				
82.346	27.4	0.24	2	7	-0.1	3	0.2 26
85.589	21.1	0.26	2	6	-0.1	3	0.2 26
85.641	27.3	0.30	2	5	0.0	3	0.3 26
85.644	23.1	0.24	2	6	-0.1	3	0.3 26
84.805	24.7	0.26	4n	0.2			26-Inch

	I 1602		17 44.9 -48 10				
80.251	337.9	0.26	2	6	+0.2	3	0.0 36
80.251	337.9	0.26	1n	0.0			36-Inch

Considerable retrograde motion. No measures since 1944.

	VOU 42		17 45.0 -16 46				
80.230	356.0	0.20	2	6	-0.5	3	0.3 60
80.232	0.2	0.19	2	6	-0.4	3	60
80.231	358.1	0.20	2n	0.3			60-Inch

10773	HO 70		17 45.6 +30 32				
77.574	96.8	0.43	2	5	-0.2	4	0.1 26
77.593	96.7	0.41	2	6	-0.3	3	0.3 26
77.631	97.1	0.43	2	5	0.0	3	0.0 26
77.599	96.9	0.42	3n	0.1			26-Inch

10763	A 32		17 45.6 -03 30				
81.645	233.3	0.58	2	4	-0.1	3	1.4 26
81.650	226.7	0.58	2	6	+0.2	3	1.2 26
81.653	224.5	0.73	2	7	0.0	3	1.5 26
81.656	221.4	0.75	2	7	0.0	3	1.7 26
81.651	226.5	0.66	4n	1.4			26-Inch

10764	A 31		17 45.6 -04 23				
81.645	5.1	1.15	2	4	0.0	3	26
81.653	4.1	1.18	1	8	+0.1	3	0.0 26
81.656	3.3	1.15	1	7	+0.1	3	0.1 26
81.651	4.2	1.16	3n	0.0			26-Inch

10769	STF 2205		17 45.7 +17 43				
80.657	338.6	1.45	2	6	+0.1	3	0.7 26
80.659	339.3	1.36	2	8	0.0	3	0.3 26
80.676	340.4	1.58	2	5	0.0	3	0.3 26
80.700	339.2	1.58	2	5	+0.6	3	0.3 26
85.526	342.0	1.47	2	5	0.0	3	26
85.543	342.8	1.35	2	5	-0.1	3	0.3 26
85.589	341.5	1.41	2	7	0.0	3	0.1 26
85.644	339.2	1.39	2	7	+0.2	3	0.3 26
80.673	339.4	1.49	4n	0.4			26-Inch
85.576	341.4	1.40	4n	0.2			26-Inch

10786	AC 7 BC		17 46.5 +27 45				
77.535	18.1	0.79	2	6	+0.1	3	0.3 26
77.574	19.6	0.84	2	6	0.0	4	0.4 26
77.593	21.2	0.79	2	6	-0.4	3	0.5 26
77.631	27.2	0.83	2	5	0.0	3	0.4 26
78.510	28.2	0.92	2	7	0.0	3	0.3 26
78.512	26.1	0.86	2	6	0.0	3	0.3 26
78.516	26.5	0.99	2	6	0.0	3	0.3 26
78.526	25.6	0.91	2	6	0.0	3	0.3 26
80.449	36.5	1.25	2	7	0.0	3	0.5 26
80.618	41.5	1.24	2	5	0.0	3	0.6 26
80.651	39.4	1.14	2	6	-0.2	3	0.4 26
80.654	38.5	1.28	2	8	0.0	3	0.5 26
81.579	41.3	1.42	2	5	+0.1	3	0.4 26
81.615	43.6	1.43	2	5	-0.2	3	0.5 26
81.631	43.5	1.34	2	6	-0.1	3	0.4 26
81.637	43.2	1.38	2	5	0.0	3	0.4 26
84.623	56.1	1.52	2	3	+0.1	3	0.2 26
84.648	52.5	1.57	2	7	-0.1	3	0.3 26
84.713	53.4	1.55	2	6	+0.6	3	0.4 26
86.422	58.1	1.72	2	6	0.0	3	0.4 26
86.463	59.2	1.68	2	7	-0.1	3	0.2 26
86.657	60.4	1.62	2	5	-0.2	3	0.4 26
86.660	58.0	1.68	2	8	-0.3	3	0.4 26
87.591	58.5	1.89	2	7	-0.1	3	0.5 26
87.632	57.9	1.65	2	5	-0.2	3	0.6 26
87.635	58.5	1.66	2	7	0.0	3	0.4 26
87.667	59.9	1.64	2	6	0.0	3	0.5 26
77.583	21.5	0.81	4n	0.4			26-Inch
78.516	26.6	0.92	4n	0.3			26-Inch
80.593	39.0	1.23	4n	0.5			26-Inch
81.616	42.9	1.39	4n	0.4			26-Inch
84.661	54.0	1.55	3n	0.3			26-Inch
86.550	58.9	1.68	4n	0.4			26-Inch
87.631	58.7	1.71	4n	0.5			26-Inch

Couteau, 1960: +2.6, +0.01; -0.2, +0.01; +0.3, +0.07; 0.0, +0.12; +1.1, +0.04; +2.3, +0.09; -0.5, +0.11.

10795	STF 2215		17 47.1 +17 42				
80.654	271.6	0.46	2	7	-0.1	3	0.8 26
80.657	268.5	0.45	2	6	+0.1	3	0.7 26
80.659	272.5	0.50	2	8	+0.1	3	1.2 26
80.676	269.8	0.47	2	7	-0.2	3	1.0 26
85.658	268.5	0.45	2	8	-0.4	3	0.7 26
86.422	268.1	0.53	2	7	0.0	3	0.7 26
86.463	268.2	0.49	2	6	0.0	3	1.0 26
86.657	267.4	0.51	2	5	-0.1	3	26
80.662	270.6	0.47	4n	0.9			26-Inch
86.300	268.0	0.50	4n	0.8			26-Inch

TABLE 2 (Cont.)

10796	HU 1288		17 47.1 +15 02					
85.658	143.1	0.41	2	7	-0.3	3	0.4	26
86.422	148.7	0.39	2	7	+0.1	3	0.4	26
86.463	152.4	0.40	2	5	+0.1	3	0.5	26
86.657	155.5	0.47	2	5	0.0	3		26
86.300	149.9	0.42	4n		0.4		26-Inch	
10803	STF 2222		17 47.9 +14 49					
75.501	61.7	2.32	2	4	-0.1	3	2.0	26
78.516	62.6	2.17	2	7	0.0	3	1.5	26
78.526	62.1	2.16	2	5	0.0	3	1.2	26
77.514	62.1	2.22	3n		1.6		26-Inch	
10806	J 753		17 48.3 +15 47					
78.516	96.6	1.90	2	7	+0.1	3	0.6	26
78.526	94.2	1.94	2	5	+0.1	3	0.5	26
78.529	96.0	1.87	2	7	+0.1	3	0.7	26
78.524	95.6	1.90	3n		0.6		26-Inch	
10814	HU 1182		17 48.6 +35 36					
78.551	334.4	0.59	2	7	0.0	3	0.3	26
78.639	327.5	0.56	1	5	+0.1	3	0.6	26
78.642	336.3	0.65	2	5	-0.2	3	0.6	26
78.644	330.9	0.63	2	6	-0.2	3	0.4	26
78.619	332.3	0.61	4n		0.5		26-Inch	
10815	J 754		17 49.0 +24 52					
76.262	52.6	1.65	2	5	-0.5	3	0.5	26
77.574	51.3	1.73	2	6	0.0	4	0.5	26
77.593	49.9	1.71	2	6	-0.2	3	0.7	26
77.143	51.3	1.70	3n		0.6		26-Inch	
10822	A 2187		17 50.1 +02 14					
80.449	320.4	0.39	2	6	0.0	3	0.6	26
80.618	320.2	0.44	2	5	-0.1	3	0.3	26
80.651	321.7	0.40	2	6	-0.1	3	0.6	26
80.573	320.8	0.41	3n		0.5		26-Inch	
10831	FOX 22		17 50.6 +15 17					
80.449	339.9	0.95	1	7	+0.1	3	0.4	26
80.651	341.3	0.89	2	6	0.0	3	0.4	26
80.654	340.3	0.86	2	7	0.0	3	0.4	26
80.585	340.5	0.90	3n		0.4		26-Inch	
10828	STT 337		17 50.5 +07 14					
87.555	175.8	0.35	1	6	-0.2	3	0.3	26
87.558	177.2	0.52	1	7	0.0	3	0.5	26
87.572	176.0	0.47	1	6	0.0	3		26
87.575	177.1	0.35	1	6	0.0	3	0.4	26
87.565	176.5	0.42	4n		0.3		26-Inch	

Docobo, Costa, 1985: +3.8, +0.02.

10855	A 1883		17 51.6 +45 55					
82.346	40.4	0.44	2	6	-0.1	3	0.4	26
85.587	44.1	0.55	2	6	0.0	3	0.4	26
85.589	50.5	0.49	2	6	0.0	3	0.3	26
84.507	45.0	0.49	3n		0.4		26-Inch	
10846	A 1164		17 51.9 +07 23					
84.623	49.3	0.28	2	6	+0.1	3	0.4	26
84.648	39.5	0.29	2	7	-0.1	3	0.5	26
84.713	44.2	0.36	2	6	+0.5	3	0.5	26
84.661	44.3	0.31	3n		0.5		26-Inch	
10860	A 234		17 52.6 +25 37					
77.574	56.6	0.20	2	6	0.0	4	0.0	26
78.516	59.1	0.14	2	7	0.0	3	0.0	26
78.529	55.4	0.18	2	7	+0.1	3	0.3	26
78.206	57.0	0.17	3n		0.1		26-Inch	

Closing in and beginning to move more rapidly.

11006	STT 349		17 53.0 +83 54					
75.655	43.0	0.32	2	7	+0.1	3	0.3	26
77.535	44.7	0.33	1	7	+0.1	3	0.3	26
77.574	45.5	0.29	1	5	+0.2	4	0.2	26
76.921	44.4	0.31	3n		0.3		26-Inch	

Heintz, 1962: -14.3, +0.03.

10874	STF 2243		17 53.3 +36 06					
75.501	44.0	1.35	2	4	-0.1	3	0.3	26
77.574	42.2	1.21	2	7	+0.1	4	0.0	26
77.593	41.9	1.22	2	5	0.0	3	0.3	26
76.889	42.7	1.26	3n		0.2		26-Inch	

10871 A 235 17 53.3 +25 00

77.574	65.2	0.23	2	6	0.0	4	0.1	26
77.593	60.6	0.25	2	6	-0.1	3	0.0	26
77.631	64.4	0.25	2	6	0.0	3	0.2	26
82.346	71.4	0.28	2	7	+0.1	3	0.2	26
85.526	83.1	0.41	2	6	-0.1	3	0.3	26
85.543	81.0	0.35	2	5	-0.1	3		26
77.599	63.4	0.24	3n		0.1			26-Inch
84.472	78.5	0.35	3n		0.2			26-Inch

Eggen, 1965: -6.6, -0.03; -3.3, +0.05.
Baize, 1957: +1.2, -0.04; +1.7, -0.04.

10912 STF 2244 17 57.1 +00 04

85.543	93.3	0.35	2	5	0.0	3		26
85.559	93.9	0.34	2	7	0.0	3	0.3	26
85.587	96.2	0.30	2	6	0.0	3	0.2	26
85.589	93.1	0.31	2	7	0.0	3	0.2	26
85.570	94.1	0.32	4n		0.2			26-Inch

Baize, 1984: -0.3, +0.07.
A near-simultaneous speckle observation confirms the separation.

10925 HO 73 17 57.2 +35 47

78.642	215.6	1.93	2	5	-0.1	3	0.2	26
78.644	216.4	1.98	2	6	-0.2	3	0.2	26
78.680	215.5	2.01	2	8	+0.2	3	0.2	26
78.655	215.8	1.97	3n		0.2			26-Inch

10916 BU 1299 17 57.5 +10 57

78.551	42.2	0.15	2	8	0.0	3	0.0	26
78.642	48.3	0.17	2	5	-0.2	3	0.0	26
78.644	43.9	0.20	2	6	-0.3	3		26
78.680	47.9	0.20	2	8	+0.1	3	0.2	26
85.658	64.0	0.20	2	7	-0.4	3		26
86.422	53.1	0.20	2	7	0.0	3		26
86.660	62.0	0.24	2	8	-0.3	3	0.0	26
86.690	54.8	0.23	2	7	0.0	3	0.0	26
78.629	45.6	0.18	4n		0.0			26-Inch
86.358	58.5	0.22	4n		0.0			26-Inch

Baize, 1981: +2.4, -0.05; +3.4, -0.05.

10961 COU 1003 AP 17 59.5 +29 30

85.559	57.2	0.20	2	7	+0.1	3		26
85.587	50.5	0.20	2	6	0.0	3		26
85.589	63.3	0.19	2	7	+0.1	3		26
85.578	57.0	0.20	3n					26-Inch

11001 STF 2267 18 01.6 +40 11

80.659	261.9	0.67	2	8	+0.1	3	0.1	26
80.676	261.3	0.67	2	6	-0.1	3	0.2	26
81.615	264.9	0.72	2	5	-0.2	3	0.2	26
81.631	264.6	0.75	2	6	-0.2	3	0.1	26
85.658	265.4	0.64	2	7	-0.4	3	0.2	26
86.422	264.3	0.66	2	7	0.0	3	0.2	26
86.463	266.4	0.62	2	6	0.0	3	0.2	26
86.657	262.0	0.62	2	5	-0.2	3	0.5	26
81.145	263.2	0.70	4n		0.1			26-Inch
86.300	264.5	0.64	4n		0.3			26-Inch

10987 BU 1202 18 01.6 +03 32

80.651	349.9	0.71	2	6	-0.1	3	0.8	26
80.654	351.9	0.58	1	7	-0.1	3	0.9	26
80.657	348.7	0.53	1	6	0.0	3	1.0	26
80.654	350.2	0.61	3n		0.9			26-Inch

10990 BU 1125 18 01.8 +01 18

80.449	94.3	0.41	2	6	0.0	3	3.0	26
80.651	92.7	0.61	2	7	0.0	3	2.8	26
80.654	87.8	0.49	2	7	0.0	3	3.0	26
80.657	93.1	0.46	2	6	0.0	3	2.8	26
80.603	92.0	0.49	4n		2.9			26-Inch

A difficult pair. Moving more rapidly as it closes in.

11010 BU 1127 18 02.6 +44 14

77.593	86.3	0.83	2	5	0.0	3	0.8	26
78.526	87.6	0.91	2	5	0.0	3	1.8	26
78.529	85.5	0.97	2	7	0.0	3	1.4	26
78.216	86.5	0.90	3n		1.3			26-Inch

Popovic, 1970: +5.8, -0.16.
Predicted separation much too large.

11005 STF 2262 18 03.0 -08 11

78.551	278.4	1.91	2	7	0.0	3	0.6	26
78.639	277.3	1.78	3	4	0.0	3	0.5	26
78.642	278.0	1.79	2	5	0.0	3	0.5	26
78.644	278.2	1.80	3	5	0.0	3	0.6	26
81.579	277.1	1.89	2	5	+0.1	3	0.7	26
81.615	278.5	1.83	2	5	-0.2	3	0.7	26
81.631	279.4	1.92	2	5	-0.1	3	0.7	26
81.637	278.2	1.98	2	5	-0.1	3	0.7	26
86.690	278.1	1.73	2	7	-0.2	3	0.2	26
86.712	280.0	1.89	2	5	-0.1	3	0.3	26
87.555	279.7	1.65	2	6	-0.2	3	0.7	26
87.558	279.7	1.73	2	7	0.0	3	0.4	26
78.619	278.0	1.82	4n		0.6			26-Inch
81.616	278.3	1.90	4n		0.6			26-Inch
87.129	279.4	1.75	4n		0.4			26-Inch

Wierzbinski, 1959: +1.7, -0.04;
+1.1, +0.06.
+1.6, -0.04.

11012	HO 565		18 03.2 +26 03						
81.615	93.9	0.26	2	5	0.0	3			26
81.631	94.1	0.23	2	6	-0.2	3			26
81.637	87.8	0.28	2	5	-0.2	3			26
81.645	85.2	0.28	2	4	0.0	3			26
85.658	89.5	0.23	2	7	-0.4	3			26
86.422	91.9	0.26	2	7	0.0	3	0.2		26
86.463	93.2	0.26	2	6	+0.1	3			26
86.660	85.6	0.24	2	8	-0.4	3	0.0		26
81.632	90.2	0.26	4n						26-Inch
86.301	90.0	0.25	4n	0.1					26-Inch
11007	A 1165		18 03.3 +04 47						
81.631	33.7	1.28	2	6	0.0	3	1.2		26
81.637	33.0	1.25	2	5	0.0	3	1.0		26
81.645	36.3	1.06	2	4	-0.1	3	1.5		26
81.653	35.8	1.20	2	8	-0.2	3	1.6		26
81.642	34.7	1.20	4n	1.3					26-Inch
11034	STF 2266		18 04.4 +03 29						
87.558	182.6	8.63	1	7	0.0	3	3.2		26
87.591	185.2	8.36	1	6	-0.2	3	3.5		26
87.632	184.7	8.62	1	4	-0.2	3	2.8		26
87.594	184.2	8.54	3n	3.2					26-Inch
11062	ES 641		18 04.8 +54 35						
81.656	67.3	2.15	2	7	0.0	3	0.0		26
82.346	62.8	2.15	2	7	-0.2	3	0.1		26
82.001	65.0	2.15	2n	0.0					26-Inch
11045	STT 534		18 05.0 +21 26						
80.659	271.7	2.25	2	8	+0.1	3	1.8		26
80.676	271.9	2.14	2	6	0.0	3	2.0		26
80.700	271.4	2.32	2	5	+0.5	3	1.6		26
80.730	271.1	2.26	2	7	+0.4	3	2.0		26
80.689	271.5	2.24	4n	1.8					26-Inch
11073	HU 1290		18 05.4 +62 16						
81.650	49.5	0.17	2	7	+0.2	3			26
81.653	52.6	0.21	2	7	+0.1	3	0.3		26
81.656	46.1	0.23	2	8	0.0	4			26
81.653	49.4	0.20	3n	0.3					26-Inch

11046	STF 2272		18 05.5 +02 30						
77.646	348.0	2.06	1	6	+0.2	3	1.8		26
77.574	347.4	2.02	1	6	+0.3	4	2.0		26
77.593	345.5	1.97	1	6	0.0	3	2.0		26
77.631	346.7	1.97	1	5	0.0	3	2.4		26
77.697	345.8	1.93	1	4	-0.2	3	2.2		26
77.743	344.6	1.91	1	4	+0.5	3	2.0		26
77.746	344.9	2.03	1	5	+0.3	3	2.0		26
78.510	337.8	2.10	1	7	0.0	3	1.8		26
78.512	339.0	2.03	1	7	-0.1	3	1.8		26
78.516	338.7	2.09	3	6	0.0	3	2.0		26
78.526	339.0	1.91	2	5	+0.1	3	1.8		26
78.529	337.0	2.04	2	7	+0.1	3	2.0		26
78.551	338.0	1.95	1	7	+0.1	3	2.0		26
78.639	336.8	2.03	1	5	-0.1	3	1.8		26
79.693	326.2	2.19	1	6	+0.1	3	2.0		26
79.715	328.0	2.17	2	6	+0.4	3	2.0		26
80.449	323.9	2.25	2	6	0.0	3	1.8		26
80.618	322.5	2.14	2	5	-0.1	3	1.8		26
80.651	322.1	2.36	2	7	0.0	3	1.8		26
80.654	321.0	2.41	2	7	0.0	3	2.0		26
80.657	323.1	2.23	2	7	0.0	3	2.0		26
80.659	323.2	2.28	2	8	+0.1	3	1.8		26
80.676	321.5	2.26	2	6	+0.1	3	2.0		26
80.700	323.2	2.24	2	5	+0.2	3	1.8		26
81.579	316.4	2.26	2	5	+0.1	3	2.2		26
81.615	315.2	2.25	2	5	-0.1	3	1.9		26
81.631	315.8	2.42	2	6	0.0	3	2.0		26
81.637	315.8	2.21	2	6	0.0	3	2.0		26
81.645	315.8	2.36	2	5	-0.1	3	2.0		26
81.650	314.8	2.21	2	6	-0.5	3	2.0		26
81.656	314.8	2.40	2	8	-0.5	3	2.0		26
81.692	315.3	2.24	2	5	0.0	3	1.9		26
82.346	309.6	2.29	2	8	0.0	3	1.8		26
84.623	293.0	2.29	2	7	0.0	3	1.8		26
84.648	293.2	2.12	2	7	-0.1	3	2.2		26
84.713	292.5	2.16	2	6	+0.1	3	2.0		26
84.716	289.6	2.09	2	7	-0.1	3	2.0		26
84.719	292.2	2.16	2	6	0.0	3	1.8		26
84.724	292.2	2.12	2	4	-0.2	3	2.0		26
85.543	286.4	2.21	2	5	-0.1	3	1.8		26
85.559	287.7	2.15	2	6	-0.1	3	1.8		26
85.587	288.0	2.03	2	7	0.0	3	2.0		26
85.589	286.8	2.04	2	7	-0.1	3	1.8		26
85.641	286.7	2.31	2	3	0.0	3	2.0		26
85.644	286.5	1.91	2	6	0.0	3	1.8		26
86.422	278.5	1.82	2	7	0.0	3	1.8		26
86.463	279.5	1.91	2	5	+0.1	3	2.0		26
86.657	278.5	1.97	2	5	0.0	3	2.0		26
86.660	276.9	1.89	2	7	-0.3	3	2.0		26
86.690	276.6	1.81	2	7	-0.5	3	1.8		26
86.709	276.6	1.82	2	6	-0.1	3	1.8		26
86.712	275.4	1.88	2	5	0.0	3	2.0		26
86.747	275.7	1.83	2	7	0.0	3	2.0		26
87.555	265.7	1.69	2	5	-0.2	3	1.8		26
87.558	266.5	1.72	2	7	+0.1	3	1.8		26
87.572	265.1	1.68	2	5	-0.1	3	1.9		26
87.575	267.6	1.52	2	7	0.0	3	2.0		26
87.591	265.1	1.59	2	6	-0.3	3	1.8		26
87.632	266.7	1.67	2	5	-0.2	3	1.8		26
87.635	265.9	1.69	2	6	+0.1	3	1.8		26
87.667	265.2	1.61	2	5	0.0	3	1.8		26
77.646	346.1	1.98	7n	2.1					26-Inch
78.540	338.0	2.02	7n	1.9					26-Inch
79.709	327.2	2.18	3n	2.0					26-Inch
80.633	322.6	2.27	8n	1.9					26-Inch
81.638	315.5	2.29	8n	2.0					26-Inch
82.346	309.6	2.29	1n	1.8					26-Inch

84.690	292.1	2.16	6n	2.0	26-Inch
85.594	287.0	2.11	6n	1.9	26-Inch
86.632	277.2	1.87	8n	1.9	26-Inch
87.598	266.0	1.65	8n	1.8	26-Inch

Heintz, 1973: +1.4, -0.01; +1.5, -0.05;
+0.5, +0.01; +3.1, +0.02;
+3.2, -0.01; +2.4, +0.01;
+2.4, -0.10; +5.1, +0.08;
+5.8, +0.01; +6.2, -0.07.
The growing angular residual is surprising in a supposedly "definitive" orbit.

11060 STT 341 18 05.8 +21 27

80.659	86.5	0.24	2	8	0.0	3	1.0 26
80.676	87.9	0.26	2	7	0.0	3	1.2 26
80.700	85.3	0.29	2	5	+0.4	3	0.6 26
80.720	86.9	0.29	2	7	+0.4	3	0.8 26
80.689	86.6	0.27	4n		0.9		26-Inch

Heintz, 1982: -1.3, 0.00.

11067 HO 79 18 06.2 +33 26

81.631	25.0	0.24	2	6	0.0	3	26
81.637	24.0	0.24	2	6	+0.2	3	26
81.653	23.3	0.34	2	8	-0.1	3	0.0 26
81.656	25.0	0.29	2	8	-0.1	3	0.2 26
81.644	24.3	0.28	4n		0.1		26-Inch

11071 HU 1186 18 06.3 +38 24

81.645	101.5	0.45	2	5	+0.1	3	0.2 26
81.650	99.8	0.48	2	6	0.0	3	0.2 26
81.653	105.2	0.43	2	7	0.0	3	0.3 26
81.656	102.6	0.48	2	8	-0.2	3	0.2 26
81.651	102.3	0.46	4n		0.2		26-Inch

Heintz, 1965: +2.5, +0.1?.

11077 AC 15 18 07.0 +30 34

77.689	357.9	1.64	2	4	-0.1	3	3.0 26
78.512	357.7	1.57	1	7	+0.1	3	2.5 26
78.516	358.4	1.39	2	7	+0.1	3	2.6 26
78.526	356.7	1.41	2	4	0.0	3	2.8 26
82.346	8.0	1.39	2	8	+0.1	3	3.3 26
84.719	10.6	1.21	2	5	+0.2	3	3.0 26
84.724	8.5	1.28	2	6	+0.1	3	3.3 26
87.632	17.5	1.15	2	4	-0.1	3	2.0 26
87.635	13.0	1.14	2	6	0.0	3	3.0 26
87.667	11.9	1.19	2	5	-0.1	3	3.0 26
78.311	357.7	1.50	4n		2.7		26-Inch
83.930	9.0	1.29	3n		3.2		26-Inch
87.645	14.1	1.16	3n		2.7		26-Inch

Heintz, 1972: +0.8, 0.00; +1.8, -0.05;
-1.7, 0.00.

11080 STT 524 18 07.5 +19 40

81.653	221.6	0.22	3	7	+0.1	5	1.0 26
81.656	221.3	0.24	2	7	+0.1	4	1.2 26
81.692	222.8	0.29	3	5	0.0	3	1.3 26
81.697	219.4	0.24	2	5	-0.1	3	1.5 26
81.674	221.3	0.25	4n		1.2		26-Inch

Heintz, 1974: +1.7, +0.04.
Baize, 1985: -6.9, +0.01.

11083 BU 826 18 07.7 +09 46

77.631	143.0	0.94	2	5	+0.1	3	0.2 26
78.510	140.5	0.81	2	7	0.0	3	0.0 26
78.512	143.1	0.81	2	7	0.0	3	0.1 26
78.218	142.2	0.85	3n		0.1		26-Inch

11094 ROE 97 18 08.5 +10 14

77.631	150.8	0.98	1	5	+0.2	3	0.4 26
78.510	148.5	0.87	2	6	+0.1	3	0.2 26
78.512	149.9	0.94	2	7	0.0	3	0.5 26
78.218	149.7	0.93	3n		0.4		26-Inch

11098 HU 314 18 08.7 +18 38

82.346	95.3	0.28	2	8	+0.1	3	0.3 26
85.587	98.4	0.23	2	7	0.0	3	0.2 26
85.589	97.3	0.22	2	7	0.0	3	0.2 26
84.507	97.0	0.24	3n		0.2		26-Inch

11128 HU 674 18 09.6 +50 24

87.591	224.9	0.71	2	5	-0.1	3	0.4 26
87.632	224.3	0.63	2	4	-0.1	3	0.4 26
87.667	222.5	0.66	2	5	-0.3	3	0.5 26
87.630	223.9	0.67	3n		0.4		26-Inch

11110 STF 2283 18 09.6 +06 09

85.543	65.3	0.64	2	5	-0.2	3	0.2 26
85.587	66.4	0.57	2	7	+0.1	3	0.7 26
85.589	66.5	0.61	2	7	+0.1	3	0.5 26
85.573	66.1	0.61	3n		0.5		26-Inch

11111 STF 2281 18 09.6 +04 00

80.449	340.0	0.27	2	7	0.0	3	0.8	26
80.618	326.3	0.26	2	6	-0.1	3	0.3	26
80.651	333.4	0.28	2	7	0.0	3	0.5	26
80.593	333.9	0.28	3	6	+0.1	3	0.8	26
82.346	327.7	0.34	2	6	+0.1	3	0.6	26
84.623	320.7	0.28	2	7	+0.1	3	0.8	26
84.648	324.5	0.33	2	6	0.0	3	0.6	26
84.713	325.0	0.34	2	6	+0.5	3	0.8	26
84.716	322.6	0.32	2	7	0.0	3	1.0	26
86.422	320.2	0.32	2	6	+0.1	3	0.8	26
86.660	319.2	0.42	2	7	-0.3	3	0.8	26
86.690	320.3	0.36	2	7	-0.4	3	1.0	26
86.709	314.2	0.30	2	5	-0.1	3	1.0	26
86.712	319.2	0.33	2	5	0.0	3	1.0	26
87.558	319.0	0.35	2	7	+0.1	3	0.8	26
87.572	319.9	0.33	2	5	-0.1	3	0.4	26
87.575	315.9	0.35	2	6	0.0	3	0.8	26
87.591	316.3	0.33	2	6	-0.3	3	1.0	26

80.593	333.4	0.27	4n	0.6	26-Inch
84.20[illegible]	324.1	0.32	5n	0.8	26-Inch
86.639	318.6	0.35	5n	0.9	26-Inch
87.574	317.8	0.34	4n	0.8	26-Inch

Heintz, 1984: +2.0, -0.08; +1.7, -0.06;
+1.6, -0.05; +2.7, -0.06.
Slightly better than Valbousquet's orbit.

11123 STF 2289 18 10.2 +16 28

77.593	224.4	1.19	2	5	+0.1	3	0.6	26
77.689	226.1	1.30	2	3	0.0	3	0.8	26
78.516	224.4	1.18	2	7	+0.1	3	0.8	26
78.639	224.9	1.21	2	5	0.0	3	1.2	26

78.109	225.0	1.22	4n	0.8	26-Inch

Hopmann, 1964: +4.3, -0.01.

11118 BU 638 BC 18 10.3 +02 35

81.631	6.9	1.87	1	5	+0.1	3	0.5	26
81.637	7.1	1.75	1	6	+0.2	3	0.6	26
81.653	5.5	1.92	1	7	+0.2	3	0.5	26

81.640	6.5	1.85	3n	0.5	26-Inch

11131 HO 81 18 10.4 +32 21

85.658	218.7	3.21	2	7	-0.3	3	3.0	26
86.657	219.8	2.99	2	5	-0.2	3	3.0	26
86.660	217.2	3.06	2	7	-0.1	3	2.0	26
86.690	218.9	3.09	2	7	-0.1	3	2.8	26

86.416	218.6	3.09	4n	2.7	26-Inch

11119 STF 2286 18 10.4 +00 32

81.615	313.6	2.96	2	5	-0.1	3	2.4	26
81.631	315.7	2.98	2	6	+0.1	3	1.5	26
81.637	314.2	3.06	2	5	+0.2	3	1.5	26

81.628	314.5	3.00	3n	1.8	26-Inch

11132 ROE 110 18 10.9 +12 51

85.543	142.8	3.28	2	5	0.0	3	3.2	26
86.422	135.1	3.39	2	6	+0.2	3	4.0	26
86.660	135.1	3.62	2	7	-0.2	3	3.5	26

86.208	137.7	3.43	3n	3.6	26-Inch

11141 HU 317 18 11.3 +17 13

78.516	21.5	1.60	2	6	+0.2	3	0.0	26
78.529	24.8	1.57	2	7	+0.1	3	0.0	26
78.551	24.8	1.51	2	8	+0.2	3	0.2	26

78.532	23.7	1.56	3n	0.1	26-Inch

BRT 1293 18 11.5 +12 47

85.644	77.5	5.37	2	6	0.0	3	2.8	26
85.658	78.5	5.61	2	7	-0.2	3	2.5	26

85.651	78.0	5.49	2n	2.6	26-Inch

11153 A 353 18 12.5 +04 15

79.693	17.3	1.77	1	6	0.0	3	1.3	26
80.449	13.7	1.66	1	5	0.0	3	1.5	26
80.651	16.4	1.70	2	7	-0.1	3	1.4	26

80.264	15.8	1.71	3n	1.4	26-Inch

11194 HU 318 18 14.7 +23 35

81.615	163.2	0.58	2	5	0.0	3	0.5	26
81.656	165.3	0.63	2	7	+0.1	4	0.5	26
82.346	159.5	0.64	2	7	+0.2	3	0.3	26

81.872	162.7	0.64	3n	0.4	26-Inch

11223 HU 319 18 16.5 +22 49

79.693	102.0	0.39	2	5	+0.1	3	0.5	26
79.715	103.5	0.31	2	6	+0.2	3	0.4	26
79.718	102.9	0.31	2	7	+0.4	3	0.4	26
85.658	97.4	0.28	2	7	-0.2	3	0.2	26
86.660	109.0	0.31	2	7	-0.2	3	0.3	26
86.690	106.7	0.30	2	6	0.0	3	0.4	26

79.709	102.8	0.34	3n	0.4	26-Inch
86.336	104.4	0.30	3n	0.3	26-Inch

11234 A 241 18 17.2 +26 40

81.579	289.2	0.73	2	5	+0.1	3		26
81.656	289.6	0.67	2	7	+0.1	4	0.0	26
82.346	290.1	0.69	2	5	+0.2	3	0.2	26

81.860	289.6	0.70	3n	0.1	26-Inch

11235 J 759 18 17.3 +20 25

77.535	83.9	2.48	2	7	-0.1	3	0.1	26	
77.593	83.5	2.56	2	5	0.0	3	0.2	26	
77.631	84.0	2.47	2	5	+0.1	3	0.1	26	
77.586	83.8	2.50	3n		0.1			26-Inch	

11315 HU 929 18 19.6 +76 36

75.655	111.4	1.72	2	6	-0.1	3	1.5	26	
76.689	112.2	1.73	2	6	+0.1	3	1.2	26	
77.535	113.7	1.81	2	6	-0.2	3	1.6	26	
76.626	112.4	1.75	3n		1.4			26-Inch	

11260 HU 197 18 19.7 +10 17

78.526	144.0	0.26	2	5	0.0	3	0.8	26	
78.529	144.8	0.28	2	8	+0.1	3	0.6	26	
78.551	143.6	0.23	2	8	-0.1	3	0.8	26	
78.639	148.0	0.23	3	4	0.0	3	0.6	26	
84.623	122.5	0.24	2	7	0.0	3	0.6	26	
84.648	119.9	0.30	2	6	+0.1	3	0.6	26	
84.713	115.7	0.33	2	6	+0.4	3	0.7	26	
84.716	117.6	0.30	2	6	+0.2	3	1.0	26	
87.558	116.8	0.39	2	7	0.0	3	1.0	26	
87.572	119.1	0.35	2	6	0.0	3	0.7	26	
87.670	118.6	0.31	2	6	+0.2	3	1.0	26	
78.561	145.1	0.25	4n		0.7			26-Inch	
84.675	118.9	0.29	4n		0.7			26-Inch	
87.600	118.2	0.35	3n		0.9			26-Inch	

Baize, 1972: - 2.6, -0.01; -0.6, -0.01; +10.6, +0.03.

COU 202 18 20.5 +20 55

78.512	266.1	0.22	2	7	0.0	3	0.1	26	
78.516	264.8	0.23	2	7	0.0	3	0.0	26	
78.529	268.4	0.24	2	7	0.0	3	0.2	26	
85.543	274.9	0.28	2	5	-0.1	3		26	
85.559	267.8	0.24	2	7	0.0	3		26	
85.587	275.9	0.22	2	7	0.0	3		26	
78.519	266.4	0.23	3n		0.1			26-Inch	
85.563	272.9	0.25	3n					26-Inch	

Slow direct motion.

11311 STT 353 18 20.8 +71 20

75.655	289.8	0.30	2	6	-0.2	3	1.2	26	
76.689	281.5	0.26	3	6	0.0	3	1.5	26	
77.535	286.7	0.29	4	7	-0.3	3	1.5	26	
77.574	283.1	0.32	2	6	-0.1	4	1.8	26	
87.572	281.0	0.39	2	7	-0.2	3	1.7	26	
87.575	278.5	0.41	2	5	0.0	3	1.4	26	
87.591	280.2	0.32	4	5	-0.3	3	1.5	26	
76.863	285.3	0.29	4n		1.5			26-Inch	
87.579	279.9	0.37	3n		1.5			26-Inch	

Olevic, 1975: +15.8, +0.07; +29.0, +0.15.
Motion much slower than predicted.

11276 ES 347 18 20.9 +32 20

80.449	65.9	1.78	2	5	0.0	3	0.0	26	
80.651	65.8	1.77	2	6	-0.1	3	0.2	26	
80.654	65.6	1.68	2	7	-0.1	3	0.0	26	
80.585	65.8	1.74	3n		0.1			26-Inch	

11280 STF 2312 18 21.1 +28 20

81.579	340.2	1.64	2	5	+0.1	3	1.0	26	
81.615	340.5	1.59	2	5	0.0	3	1.5	26	
81.631	342.3	1.63	2	6	+0.1	3	1.8	26	
81.608	341.0	1.62	3n		1.1			26-Inch	

COU 418 18 21.7 +23 56

85.587	82.7	0.19	2	7	0.0	4		26	
85.589	79.8	0.18	2	7	0.0	3		26	
85.658	74.6	0.18	2	7	-0.2	3		26	
85.611	79.0	0.18	3n					26-Inch	

11287 BU 641 18 21.8 +21 31

87.591	344.9	0.81	2	5	-0.1	3	1.5	26	
87.635	345.5	0.84	2	6	-0.2	3	1.5	26	
87.667	345.2	0.81	2	5	-0.2	3	1.5	26	
87.670	347.5	0.88	4	5	+0.1	3	1.2	26	
87.641	345.8	0.83	4n		1.4			26-Inch	

11291 AG 222 18 22.2 +14 13

80.659	145.8	1.52	2	8	0.0	3	0.1	26	
80.676	146.4	1.47	2	6	-0.1	3	0.3	26	
80.700	147.0	1.61	2	5	+0.2	3	0.2	26	
80.678	147.0	1.61	3n		0.2			26-Inch	

11329 HU 1292 18 23.2 +61 39

76.689	150.0	0.17	3	6	+0.2	3	0.0	26	
77.574	147.4	0.23	1	5	-0.1	4	0.0	26	
77.132	148.7	0.20	2n		0.0			26-Inch	

11309 STF 2314 18 23.5 +23 27

85.543	330.8	2.70	2	5	0.0	3	0.8	26	
85.644	329.3	2.82	2	5	-0.1	3	1.0	26	
85.658	328.4	2.58	2	6	-0.1	3	1.8	26	
85.615	329.5	2.70	3n		1.2			26-Inch	

11319 A 244 18 24.1 +28 18

81.615	284.0	0.36	2	5	0.0	3		26	
81.631	275.7	0.38	2	5	+0.1	3	0.5	26	
81.653	279.9	0.43	2	7	+0.1	3	0.3	26	
81.656	275.0	0.43	2	7	+0.1	4	0.5	26	
81.639	278.6	0.40	4n		0.4			26-Inch	

11334 STF 2315 18 25.0 +27 23

79.693	127.1	0.61	2	6	0.0	3	0.8	26	
79.715	131.4	0.65	2	5	+0.1	3	0.7	26	
79.718	129.5	0.50	2	7	+0.3	3	1.0	26	
79.709	129.3	0.59	3n		0.8			26-Inch	

Heintz, 1960: -0.1, -0.10.

11324 AC 11 18 25.0 -01 35

78.644	357.0	0.73	1	4	-0.2	3	0.2	26	
78.680	356.6	0.77	1	8	0.0	3	0.2	26	
78.737	354.8	0.76	1	5	+0.3	3	0.4	26	
86.422	358.3	0.86	1	6	0.0	3	0.2	26	
86.463	359.9	0.80	1	5	0.0	3	0.4	26	
86.657	355.9	0.87	1	5	+0.2	3	0.2	26	
86.660	355.5	0.87	1	7	-0.2	3	0.4	26	
78.687	356.1	0.75	3n		0.3			26-Inch	
86.550	357.4	0.85	4n		0.3			26-Inch	

Heintz, 1958: -0.2, -0.03; +1.5, +0.06.

11343 BU 134 18 25.3 +46 53

76.703	133.2	1.18	2	5	0.0	3	2.0	26	
77.593	126.8	1.02	3	5	0.0	3	2.4	26	
77.631	126.6	1.05	4	5	0.0	3	2.6	26	
77.309	128.9	1.08	3n		2.3			26-Inch	

11338 HO 85 18 25.3 +28 05

87.558	197.6	4.93	2	7	0.0	3	4.0	26	
87.572	195.7	4.87	2	7	0.0	3	4.0	26	
87.635	200.0	4.69	2	6	-0.1	3	3.5	26	
87.588	197.8	4.83	3n		3.8			26-Inch	

11339 BU 1203 18 26.1 +00 46

81.730	138.7	0.37	2	3	-0.1	3	0.5	26	
81.733	141.8	0.40	2	4	0.0	3	0.5	26	
81.735	141.9	0.38	2	6	+0.2	3	0.6	26	
81.733	140.8	0.38	3n		0.5			26-Inch	

11346 A 580 18 26.5 +07 41

86.463	322.2	4.37	2	5	0.0	3	2.6	26	
86.660	323.0	4.56	≤	7	-0.2	3	2.2	26	
86.690	324.3	4.23	2	6	-0.1	3	2.0	26	
86.604	323.2	4.39	3n		2.3			26-Inch	

11349 STT 350 18 26.9 +06 26

81.645	165.8	1.95	1	5	+0.2	3	1.5	26	
81.656	167.9	1.85	1	7	0.0	4	1.0	26	
81.697	166.5	1.69	1	5	-0.1	3	1.2	26	
81.730	166.3	1.90	2	3	0.0	3	1.4	26	
81.682	166.6	1.85	4n		1.3			26-Inch	

11366 BU 464 18 27.6 +06 33

81.645	104.5	1.08	2	5	0.0	3	0.8	26	
81.656	106.7	1.10	2	6	+0.1	4	1.2	26	
81.697	104.9	1.19	2	5	0.0	3	1.8	26	
81.730	106.1	1.02	2	3	+0.1	3	0.8	26	
81.682	105.6	1.10	4n		0.9			26-Inch	

11373 STF 2320 18 27.7 +24 42

86.709	0.5	1.09	1	6	-0.2	3	1.3	26	
86.712	1.1	1.26	1	5	-0.2	3	1.2	26	
86.747	5.6	1.32	2	6	+0.2	3	1.6	26	
86.723	2.4	1.22	3n		1.4			26-Inch	

11385 HU 320 18 28.7 +16 14

81.645	142.6	1.98	2	5	0.0	3	0.3	26	
81.697	145.0	2.14	2	5	0.0	3	0.3	26	
81.730	144.5	2.15	2	4	+0.1	3	0.4	26	
81.691	144.0	2.09	3n		0.3			26-Inch	

11387 A 581 18 29.1 +04 04

86.709	112.3	0.32	2	5	-0.1	3	0.5	26	
86.712	119.9	0.34	2	5	-0.2	3	0.5	26	
87.558	122.4	0.38	2	6	0.0	3	0.8	26	
87.572	126.2	0.31	2	6	0.0	3	0.5	26	
87.138	120.2	0.34	4n		0.6			26-Inch	

11398 A 245 18 29.6 +26 47

85.589	1.1	3.22	2	7	0.0	3	3.2	26	
85.644	2.4	3.23	2	5	-0.1	3	3.5	26	
85.658	0.6	3.22	2	6	-0.1	3	3.8	26	
85.630	1.4	3.22	3n		3.5			26-Inch	

No measures since 1927. Unchanged.

11409 A 246 18 30.5 +25 19

78.512	164.1	1.40	1	7	-0.1	3	1.8	26	
78.516	164.1	1.46	1	6	0.0	3	1.0	26	
78.642	163.2	1.45	2	6	-0.4	3	1.8	26	
79.693	164.5	1.43	1	4	0.0	3	1.0	26	
79.718	164.5	1.39	1	6	0.0	3	1.0	26	
79.016	164.1	1.43	5n		1.3			26-Inch	

11425 A 248 18 31.2 +25 16

78.642	34.5	0.43	2	6	-0.3	3	0.2	26	
78.680	34.4	0.47	2	7	0.0	3	0.6	26	
79.718	36.9	0.44	2	6	+0.1	3	0.4	26	
79.013	35.3	0.45	3n		0.4			26-Inch	

KUI 86 18 31.3 +65 28

85.589	39.3	24.86	2	7	0.0	3 4.0	26
85.644	40.0	24.87	2	7	0.0	3 3.5	26
85.616	39.6	24.86	2n		3.8		26-Inch

This is t second measure. Optical pair.

11420 STF 2329 18 31.5 +06 27

77.574	44.7	4.23	2	5	0.0	4 0.8	26
78.644	44.5	4.34	2	4	-0.2	3 1.4	26
78.737	45.0	4.24	2	5	+0.3	3 1.5	26
78.318	44.7	4.27	3n		1.2		26-Inch

11426 HU 244 18 31.6 +12 02

81.615	261.9	1.03	2	4	+0.1	3 3.0	26
81.631	260.0	1.33	2	6	+0.1	3 3.0	26
81.637	259.7	1.37	2	5	0.0	3 2.5	26
81.653	260.0	1.29	2	7	0.0	3 2.2	26
81.634	260.4	1.26	4n		2.7		26-Inch

11450 ES 1262 18 32.5 +45 13

77.631	262.3	1.54	2	5	0.0	3 0.2	26
78.642	260.4	1.49	2	6	0.0	3 0.1	26
78.644	262.1	1.37	2	5	0.0	3 0.1	26
78.306	261.6	1.47	3n		0.1		26-Inch

11451 J 463 18 33.4 +23 01

78.512	44.5	1.64	2	7	0.0	3 0.0	26
78.642	45.8	1.92	2	6	-0.2	3 0.1	26
78.644	45.3	1.83	2	4	-0.1	3	26
78.599	45.2	1.80	3n		0.1		26-Inch

11454 HU 322 AB 18 33.8 +17 44

78.551	93.2	0.14	2	8	+0.2	3	26
78.680	89.4	0.15	2	8	0.0	3 0.2	26
84.623	94.2	0.22	2	8	+0.1	3	26
84.648	94.1	0.21	2	6	+0.2	3 0.2	26
84.716	90.7	0.20	2	6	-0.1	3 0.2	26
78.616	91.3	0.14	2n		0.2		26-Inch
84.662	93.0	0.21	3n		0.2		26-Inch

STF 2339 ABXCD

77.574	275.6	1.92	2	5	0.0	4 1.0	26
77.746	275.7	1.93	2	6	+0.1	3 0.5	26
78.512	276.5	1.85	2	7	0.0	3 1.0	26
78.516	276.0	1.88	2	7	0.0	3 1.0	26
84.623	276.2	1.83	2	8	0.0	3 1.2	26
84.648	275.1	1.79	2	6	+0.1	3 0.8	26
84.716	275.4	1.90	2	6	-0.2	3 0.8	26
78.087	276.0	1.90	4n		0.9		26-Inch
84.662	275.7	1.84	3n		0.9		26-Inch

WAK 21 CD

77.746	76.9	0.22	2	5	+0.2	3 0.0	26
78.516	80.7	0.23	2	6	+0.1	3 0.3	26
78.529	79.4	0.18	2	7	+0.1	3 0.2	26
78.551	75.2	0.21	2	8	+0.1	3 0.3	26
84.623	85.6	0.26	2	8	+0.2	3 0.3	26
84.648	80.3	0.26	2	6	+0.2	3 0.4	26
84.716	82.0	0.28	2	6	0.0	3 0.3	26
78.336	78.0	0.21	4n		0.2		26-Inch
84.662	82.6	0.27	3n		0.3		26-Inch

Slow direct motion.

11468 A 1377 18 34.0 +52 21

86.422	101.6	0.29	2	6	0.0	3 0.0	26
86.463	100.2	0.28	2	6	0.0	3 0.0	26
86.660	103.1	0.34	2	7	-0.2	3	26
86.690	103.4	0.28	2	7	-0.1	3 0.0	26
86.559	102.1	0.30	4n		0.0		26-Inch

Scardia, 1984: +0.6, +0.03.

11479 STT 359 18 35.6 +23 36

80.449	12.1	0.60	2	5	0.0	3 0.3	26
80.651	11.2	0.55	2	6	-0.2	3 0.3	26
80.654	9.4	0.62	2	6	-0.2	3 0.3	26
84.716	7.9	0.69	2	7	+0.2	3 0.0	26
84.719	7.5	0.63	2	6	-0.2	3 0.0	26
84.721	10.5	0.53	2	5	+0.5	3 0.2	26
84.724	10.1	0.67	2	6	-0.2	3 0.1	26
86.709	10.2	0.67	2	6	-0.1	3 0.2	26
86.712	11.1	0.67	2	5	-0.2	3 0.0	26
86.747	10.7	0.66	2	7	0.0	3 0.3	26
86.767	9.0	0.67	2	7	0.0	3 0.2	26
80.585	10.9	0.59	3n		0.3		26-Inch
84.720	9.0	0.63	4n		0.1		26-Inch
86.734	10.2	0.67	4n		0.3		26-Inch

Symms, 1964: +1.3, -0.02; +0.3, 0.00;
+1.9, +0.03.

11483 STT 358 18 35.9 +16 59

80.449	162.3	1.79	2	5	+0.1	3 0.2	26
80.651	162.6	1.76	1	6	-0.2	3 0.4	26
80.654	163.6	1.74	2	6	-0.1	3 0.2	26
84.716	160.6	1.77	2	6	+0.1	3 0.2	26
84.719	162.0	1.73	2	7	-0.1	3 0.2	26
84.721	162.2	1.58	2	5	+0.4	3 0.2	26
84.724	160.6	1.66	2	6	-0.1	2 0.2	26
86.709	161.8	1.70	2	6	-0.1	3 0.0	26
86.712	161.3	1.68	3	6	-0.1	3 0.3	26
86.747	160.9	1.67	2	7	+0.1	3 0.1	26
86.767	161.6	1.69	2	7	+0.1	3 0.0	26
80.585	162.8	1.76	3n		0.3		26-Inch
84.720	161.4	1.68	4n		0.2		26-Inch
86.734	161.4	1.68	4n		0.1		26-Inch

Heintz, 1954: +2.0, +0.19; +3.0, +0.16;
+4.3, +0.19.
Later orbits by Hopmann and Starikova are no better.

11484 STT 357 18 36.0 +11 44

80.449	99.9	0.28	2	5	+0.2	3	0.0	26
80.651	103.7	0.31	2	7	-0.1	3	0.1	26
80.585	102.0	0.34	2	5	-0.1	3	0.0	26
84.716	277.1	0.31	2	6	+0.1	3	0.2	26
84.719	283.4	0.30	2	6	0.0	3	0.2	26
84.721	279.1	0.31	2	5	+0.2	3	0.3	26
84.724	281.1	0.31	2	6	-0.2	3	0.2	26
86.709	100.1	0.33	2	6	0.0	3	0.0	26
86.712	282.6	0.34	2	6	-0.1	3	0.2	26
86.747	100.1	0.39	2	6	+0.2	3	0.2	26
86.767	96.1	0.35	2	6	+0.2	3	0.0	26
80.585	102.0	0.31	3n		0.0		26-Inch	
84.720	280.2	0.31	4n		0.2		26-Inch	
86.734	99.7	0.35	4n		0.1		26-Inch	

Valbousquet, 1981: -0.7, -0.04;
+1.7, -0.04;
+3.1, -0.01.

11504 STF 2349 18 36.6 +33 28

87.575	203.7	7.44	2	5	0.0	3	3.5	26
87.635	204.3	7.22	2	5	-0.1	3	4.0	26
87.667	204.2	7.29	2	5	-0.2	3	4.0	26
87.626	204.1	7.32	3n		3.8		26-Inch	

11502 HU 247 18 37.0 +10 16

80.676	14.7	0.41	1	6	-0.2	3	0.3	26
80.700	16.8	0.46	2	5	+0.1	3	0.2	26
80.720	18.9	0.49	2	5	+0.1	3	0.2	26
80.699	16.8	0.45	3n		0.2		26-Inch	

11568 STF 2384 18 38.4 +67 08

81.645	310.4	0.43	2	5	0.0	3	0.4	26
81.650	308.5	0.41	2	7	-0.2	3	0.4	26
81.653	309.0	0.45	2	7	0.0	3	0.8	26
81.656	307.9	0.50	2	7	0.0	4	0.4	26
86.422	309.1	0.31	2	6	0.0	3	0.4	26
86.463	310.4	0.34	2	5	0.0	3		26
86.660	306.5	0.36	2	5	-0.1	3		26
86.690	312.6	0.30	2	6	-0.1	3	0.4	26
81.651	309.0	0.45	4n		0.5		26-Inch	
86.559	308.0	0.33	4n		0.4		26-Inch	

Heintz, 1975: -2.7, -0.13; -4.6, -0.13.

11557 A 1379 18 38.7 +52 43

77.631	214.1	1.94	2	5	0.0	3	0.3	26
78.529	210.3	1.93	2	7	+0.1	3	0.2	26
78.639	212.9	1.99	2	5	-0.2	3	0.7	26
78.266	212.4	1.95	3n		0.4		26-Inch	

11530 HO 87 18 38.7 +16 37

85.587	35.9	0.23	2	7	-0.1	4	0.3	26
85.589	41.0	0.22	2	6	0.0	3	0.4	26
85.644	39.3	0.24	2	6	0.0	3		26
85.607	38.7	0.23	3n		0.4		26-Inch	

Baize, 1986: -3.3, +0.01.
Scardia, 1986: -0.9, -0.03.

11562 A 1380 18 39.1 +56 00

77.631	196.5	0.93	1	6	+0.1	3	0.1	26
78.529	197.8	0.88	2	7	+0.2	3	0.6	26
78.639	196.8	0.82	1	5	-0.1	3	0.6	26
78.266	197.0	0.88	3n		0.3		26-Inch	

11570 ES 787 18 39.9 +51 06

86.660	38.2	8.10	2	5	-0.1	3	1.2	26
86.690	38.0	8.06	2	6	0.0	3	1.4	26
86.709	37.6	8.32	2	6	0.0	3	1.5	26
86.686	37.9	8.16	3n		1.4		26-Inch	

11565 HU 1190 18 39.9 +38 07

81.645	167.7	1.78	2	5	0.0	3	0.1	26
81.653	167.7	1.67	2	7	-0.1	3	0.1	26
81.733	169.7	1.69	2	4	+0.2	3		26
81.677	168.4	1.71	3n		0.1		26-Inch	

COU 641 18 40.6 +26 36

85.587	46.1	0.48	2	7	-0.1	4	0.0	26
85.589	52.0	0.48	2	6	+0.1	3	0.0	26
85.644	53.3	0.53	2	5	0.0	3		26
85.607	50.5	0.50	3n		0.0		26-Inch	

11596 BU 136 18 42.9 +05 45

86.712	5.3	4.67	1	6	-0.1	3	0.3	26
86.747	5.9	4.22	1	6	+0.3	3	0.4	26
87.558	5.4	4.63	1	7	-0.1	3	0.5	26
87.635	5.4	4.64	1	5	0.0	3	0.4	26
87.163	5.5	4.54	4n		0.4		26-Inch	

11623 A 253 18 43.8 +31 41

78.680	116.6	0.85	2	7	+0.1	3	0.7	26
78.721	117.0	0.81	2	5	+0.1	3	0.6	26
78.737	115.6	0.81	2	5	+0.2	3	0.4	26
78.713	116.4	0.82	3n		0.6		26-Inch	

Muller, 1956: -3.8, +0.07.
Baize, 1987: -2.4, +0.02.

11617	STF 2369		18 43.9 +02 37					
86.712	68.1	0.37	2	5	0.0	3	0.3	26
87.558	73.0	0.47	2	6	0.0	3		26
87.635	71.2	0.40	2	5	0.0	3		26
87.667	65.4	0.46	2	5	-0.2	3		26
87.393	69.4	0.42	4n		0.3		26-Inch	

11614	A 859		18 43.9 -00 13					
80.676	8.3	0.26	1	6	-0.2	3	0.4	26
80.700	11.4	0.28	2	5	+0.1	3	0.4	26
80.720	11.3	0.25	1	7	-0.1	3	0.5	26
80.699	10.3	0.26	3n		0.4		26-Inch	

11619	A 2388		18 44.0 +03 21					
78.680	105.4	0.23	2	7	+0.1	3	0.2	26
80.676	105.1	0.19	2	6	-0.2	3	0.5	26
80.720	109.6	0.23	2	6	0.0	3	0.5	26
80.025	106.7	0.23	3n		0.4		26-Inch	

11635	STF 2382 AB		18 44.3 +39 40					
80.651	356.0	2.69	2	7	-0.2	3	1.0	26
80.654	355.7	2.55	2	6	-0.1	3	1.0	26
80.657	356.1	2.56	2	8	-0.2	3	0.6	26
80.659	355.6	2.66	2	8	+0.2	3	0.7	26
80.655	355.8	2.62	4n		0.8		26-Inch	

Guntzel-Lingner, 1956: +0.8, -0.06.

STF 2383 CD

80.651	93.0	2.42	2	7	0.0	3	0.3	26
80.654	90.1	2.25	2	5	0.0	3	0.3	26
80.657	91.7	2.24	2	8	-0.2	3	0.3	26
80.659	92.2	2.33	2	7	+0.1	3	0.3	26
80.655	91.8	2.33	4n		0.3		26-Inch	

Costa, Docobo, 1984: +0.9, +0.04.
Solution bound to be affected by the recently discovered speckle companion.

11628	HU 325		18 44.3 +20 52					
81.631	14.5	0.42	2	6	0.0	3	0.5	26
84.724	9.0	0.29	2	6	-0.2	3	0.6	26
85.559	3.0	0.37	2	6	-0.2	3	0.3	26
83.971	8.8	0.36	3n		0.5		26-Inch	

11640	STF 2375 APXBQ		18 45.5 +05 30					
77.746	118.3	2.36	2	4	+0.1	3	0.6	26
78.721	119.0	2.45	2	6	0.0	3	0.6	26
80.654	118.8	2.50	2	5	-0.2	3	0.6	26
79.040	118.7	2.50	3n		0.6		26-Inch	

11678	MLB 137		18 45.8 +56 45					
76.703	348.3	1.81	1	5	0.0	3	0.0	26
78.639	348.5	2.04	2	5	0.0	3	0.0	26
78.642	344.3	1.97	1	6	-0.1	3	0.3	26
77.995	347.0	1.94	3n		0.1		26-Inch	

11692	HU 937		18 46.2 +64 12					
81.645	322.8	0.72	2	5	0.0	3	0.8	26
81.650	321.1	0.82	2	7	-0.2	3	0.8	26
81.653	321.8	0.78	2	7	0.0	3	0.6	26
81.656	320.8	0.81	2	6	-0.1	4	0.8	26
81.651	321.6	0.78	4n		0.8		26-Inch	

Baize, 1980: -6.7, +0.26.
Recent observations show a much larger separation than predicted.

11686	HU 756		18 46.6 +51 42					
81.653	258.0	0.95	2	7	+0.1	3	2.7	26
85.587	263.0	1.08	2	7	-0.1	4	2.0	26
85.644	268.9	0.99	2	6	0.0	3	2.2	26
84.295	263.3	1.01	3n		2.3		26-Inch	

11680	HU 1191		18 46.6 +38 22					
78.512	271.3	0.22	2	6	0.0	3	0.0	26
78.516	271.4	0.24	2	6	0.0	3	0.4	26
78.529	269.8	0.22	2	6	+0.2	3	0.4	26
78.551	272.1	0.17	2	8	+0.1	3	0.4	26
80.651	221.2	0.19	2	7	0.0	3		26
80.654	221.4	0.15	2	7	0.0	3		26
80.657	216.7	0.15	2	7	-0.4	3	0.0	26
81.650	181.4	0.09	2	7	-0.2	3		26
78.527	271.2	0.21	4n		0.3		26-Inch	
80.654	219.8	0.16	3n		0.0		26-Inch	
81.650	181.4	0.09	1n				26-Inch	

Morel, 1969: -7.9, -0.03; -20.4, +0.01; +3.3, 0.00.

11683	HU 584		18 47.5 +15 37					
79.715	9.5	0.44	1	5	0.0	3	0.2	26
79.718	13.2	0.34	1	6	+0.1	3	0.2	26
80.449	14.1	0.34	2	5	0.0	3	0.0	26
79.960	12.3	0.37	3n		0.1		26-Inch	

	HEI 72		18 47.7 +49 05					
86.422	214.6	0.41	2	6	0.0	3	1.6	26
86.690	216.5	0.34	2	6	0.0	3	1.5	26
86.709	215.6	0.54	2	6	0.0	3	1.5	26
86.712	209.5	0.45	2	6	0.0	3	1.6	26
86.633	214.0	0.44	4n		1.6		26-Inch	

11725	HU 327			18 49.8 +21 24					
84.623	77.6	0.23	2	7	0.0	3	0.0	26	
84.713	72.0	0.31	2	6	+0.4	3		26	
84.716	73.2	0.24	2	7	+0.1	3	0.2	26	
84.684	74.3	0.26	3n		0.1			26-Inch	

This pair was neglected 1921-1954. Slow retrograde motion.

11753	HU 1192			18 50.1 +40 02					
81.637	45.4	2.56	2	5	-0.2	3	0.8	26	
81.645	46.6	2.59	2	5	0.0	3	0.8	26	
81.650	44.0	2.45	2	7	-0.1	3	0.7	26	
81.644	45.3	2.53	3n		0.8			26-Inch	

11735	BU 265			18 50.3 +11 31					
82.346	228.5	1.53	2	4	-0.2	3	1.5	26	
85.543	232.9	1.40	2	5	-0.3	3	1.3	26	
85.559	231.0	1.33	2	7	+0.1	3	1.3	26	
84.483	230.8	1.42	3n		1.4			26-Inch	

11765	J 809			18 51.7 +20 41					
79.715	32.1	1.61	2	5	0.0	3		26	
79.718	33.9	1.53	2	6	0.0	3	0.1	26	
80.651	32.1	1.55	2	7	0.0	3	0.0	26	
80.028	32.7	1.56	3n		0.0			26-Inch	

11763	STF 2409			18 51.7 +13 31					
84.719	22.7	1.00	2	5	-0.1	3	1.1	26	
84.724	21.3	0.95	2	6	-0.2	3	0.6	26	
85.543	18.8	1.00	2	5	-0.2	3	1.0	26	
84.995	20.9	0.98	3n		0.9			26-Inch	

11769	HU 199			18 52.1 +11 48					
84.719	348.2	0.74	2	6	0.0	3	0.3	26	
84.724	347.5	0.86	2	6	0.0	3	0.5	26	
85.543	346.2	0.73	2	5	-0.2	3	0.4	26	
84.995	347.3	0.78	3n		0.4			26-Inch	

Decrease in angle and a large increase in separation since discovery.

11792	A 1383			18 52.9 +36 14					
79.715	300.1	1.53	2	5	0.0	3	2.0	26	
79.718	300.5	1.37	2	7	+0.1	3	1.5	26	
80.449	300.1	1.46	2	5	0.0	3	1.4	26	
79.961	300.2	1.45	3n		1.6			26-Inch	

11790	STF 2413			18 53.4 +03 23					
86.709	197.8	10.11	1	6	0.0	3	0.3	26	
87.558	198.2	9.96	2	7	0.0	3	0.8	26	
87.572	198.9	10.00	1	6	0.0	3	0.5	26	
87.280	198.3	10.02	3n		0.5			26-Inch	

11815	HU 1294			18 54.3 +32 15					
77.631	120.7	1.63	2	6	-0.1	3	1.5	26	
78.512	115.8	1.68	2	7	0.0	3	1.4	26	
78.516	117.4	1.52	2	6	0.0	3	1.4	26	
78.220	118.0	1.61	3n		1.4			26-Inch	

11816	STF 2415			18 54.5 +20 37					
80.766	292.3	1.95	2	6	+0.1	3	1.6	26	
80.769	291.3	1.91	2	7	+0.3	3	1.6	26	
80.772	293.9	2.05	2	5	+0.1	3	1.7	26	
80.769	292.5	1.97	3n		1.6			26-Inch	

11806	A 861			18 54.5 -01 03					
80.676	343.9	1.39	1	6	-0.1	3	1.5	26	
80.720	342.8	1.52	1	5	0.0	3	1.3	26	
81.579	341.5	1.47	1	5	-0.1	3	1.2	26	
80.992	342.7	1.46	3n		1.3			26-Inch	

11834	STT 525			18 54.9 +33 58					
85.589	128.6	1.78	4	6	0.0	3	3.0	26	
85.644	126.4	1.69	2	7	0.0	3	1.8	26	
85.658	129.8	1.77	2	6	-0.2	3	4.0	26	
85.630	128.3	1.75	3n		2.9			26-Inch	

	VYS			18 54.9 +10 58					
84.623	28.5	4.22	2	7	+0.1	3	2.8	26	
84.713	28.7	4.23	2	6	+0.6	3	3.5	26	
84.716	27.0	4.27	2	6	0.0	3	3.0	26	
86.709	23.8	4.24	1	6	0.0	3	3.0	26	
86.712	30.1	3.96	2	6	0.0	3	3.5	26	
85.494	27.6	4.18	5n		3.2			26-Inch	

Probably optical.

11842	A 2192			18 55.8 +03 27					
80.659	98.8	0.25	2	7	+0.3	3	0.2	26	
80.676	100.6	0.22	2	7	-0.1	3	0.1	26	
80.700	97.2	0.32	2	5	0.0	3	0.3	26	
80.720	96.7	0.26	2	6	0.0	3	0.2	26	
80.689	98.3	0.26	4n		0.2			26-Inch	

Heintz, 1963 (2): +6.6, -0.02. Heintz's other orbit gives worse residuals.

11844	A 2193		18 55.8 +03 23			
80.659	350.3	0.76	2 7 +0.2	3	0.2	26
80.676	350.2	0.68	2 7 -0.1	3	0.1	26
80.700	350.4	0.77	1 5 +0.1	3	0.4	26
80.720	349.0	0.74	2 6 0.0	3	0.3	26
80.689	350.0	0.74	4n 0.2		26-Inch	

11851	BU 972		18 56.1 -00 34			
81.637	3.9	1.26	1 5 -0.1	3	1.0	26
81.697	4.7	1.15	1 5 -0.2	3	0.7	26
81.735	1.5	1.07	1 6 -0.1	4	1.0	26
81.690	3.4	1.16	3n 0.9		26-Inch	

11871	BU 648		18 57.0 +32 54			
77.535	62.0	1.01	2 6 -0.4	3	2.6	26
77.574	59.0	0.98	2 7 +0.3	4	2.6	26
77.593	59.7	0.97	1 4 0.0	3	2.8	26
77.631	59.7	0.99	2 7 0.0	3	2.5	26
78.510	56.5	1.05	3 5 0.0	3	2.2	26
78.512	56.5	0.98	2 6 0.0	3	2.2	26
78.516	56.6	1.01	2 5 0.0	3	2.2	26
78.529	54.8	1.08	2 7 +0.2	3	2.6	26
79.715	47.5	1.08	2 5 0.0	3	2.4	26
79.718	48.4	1.00	2 7 +0.1	3	2.4	26
80.449	45.8	1.13	1 5 +0.1	3	2.5	26
80.651	43.4	1.15	2 7 0.0	3	2.2	26
81.631	42.2	1.25	2 6 0.0	3	2.6	26
81.637	41.7	1.16	2 5 0.0	3	2.5	26
81.645	41.1	1.19	2 5 0.0	3	2.5	26
81.650	45.1	1.13	2 8 -0.1	5	2.5	26
84.623	36.8	1.25	2 8 +0.1	3	2.5	26
84.648	35.6	1.09	2 7 0.0	3	2.4	26
84.716	36.5	1.19	2 7 +0.1	3	2.5	26
84.719	36.0	1.18	2 6 0.0	3	2.5	26
85.559	34.6	1.28	2 6 -0.1	3	2.4	26
85.587	35.6	1.15	2 6 -0.1	4	2.5	26
85.589	33.4	1.16	2 7 0.0	3	2.6	26
85.644	34.7	1.12	2 6 0.0	3	2.8	26
86.422	31.4	1.13	2 5 0.0	3	2.2	26
86.463	30.5	1.19	2 6 0.0	3	2.7	26
86.660	28.6	1.21	2 5 0.0	3	2.2	26
86.690	27.9	1.15	2 7 -0.1	3	2.4	26
87.558	27.6	1.04	2 7 0.0	3	2.0	26
87.572	26.0	1.14	2 7 0.0	3	2.2	26
87.635	26.0	1.06	2 6 -0.1	3	2.0	26
87.667	25.4	1.17	2 6 -0.1	3	2.4	26
77.583	60.1	0.99	4n 2.6		26-Inch	
78.517	56.1	1.03	4n 2.3		26-Inch	
80.133	46.3	1.09	4n 2.4		26-Inch	
81.641	42.5	1.18	4n 2.5		26-Inch	
84.676	36.2	1.18	4n 2.5		26-Inch	
85.595	34.6	1.18	4n 2.6		26-Inch	
86.559	29.6	1.17	4n 2.4		26-Inch	
87.608	26.2	1.10	4n 2.2		26-Inch	

von Schrutka, 1939: +0.1, +0.06;
-0.2, +0.03; -4.4, 0.00;
-3.1, +0.05; -0.9, +0.03;
-0.6, +0.04; -2.1, +0.05;
+2.1, +0.01.

11897	STF 2438		18 57.4 +58 13			
81.656	3.4	0.83	2 6 -0.1	4	0.4	26
81.697	5.6	0.83	2 5 -0.1	3	0.5	26
81.730	5.5	0.98	2 7 -0.2	3	0.6	26
81.733	3.8	0.83	2 4 -0.4	3	0.4	26
81.704	4.6	0.87	4n 0.5		26-Inch	

Jastrzebski, 1959: +2.6, -0.02.

11906	HU 332		18 59.0 +22 29			
81.579	248.6	0.54	2 4 0.0	3		26
81.631	258.7	0.40	2 5 0.0	3	0.2	26
81.637	255.2	0.40	2 5 0.0	3	0.6	26
81.650	255.2	0.40	2 8 0.0	5	0.5	26
84.724	254.6	0.36	2 6 0.0	3	0.3	26
85.559	251.4	0.40	2 6 0.0	3	0.3	26
85.587	259.1	0.46	2 7 0.0	4	0.3	26
85.644	261.8	0.45	2 6 0.0	3	0.2	26
81.624	254.4	0.43	4n 0.4		26-Inch	
85.378	256.7	0.42	4n 0.3		26-Inch	

11929	A 1387		18 59.4 +54 50			
81.653	356.7	0.31	2 7 0.0	3	0.3	26
81.656	355.3	0.33	2 6 0.0	4	0.0	26
81.697	358.3	0.30	2 5 0.0	3	0.0	26
81.733	351.5	0.32	2 5 -0.3	3	0.0	26
81.685	355.4	0.32	4n 0.0		26-Inch	

11919	HU 677		19 00.2 +13 03			
80.654	43.0	1.62	2 6 0.0	3	0.0	26
80.676	42.4	1.68	2 6 0.0	3	0.4	26
80.700	41.7	1.74	2 5 +0.2	3	0.2	26
80.677	42.4	1.68	3n 0.2		26-Inch	

11955	HU 1295		19 01.5 +32 53			
78.680	246.2	0.24	2 7 0.0	3	0.8	26
78.721	237.8	0.21	2 5 0.0	3	0.5	26
78.737	243.6	0.23	2 5 +0.2	3	1.0	26
78.713	242.5	0.23	3n 0.8		26-Inch	

11946	ROE 124		19 01.6 +16 31			
86.709	236.2	5.91	2 6 0.0	3		26
86.712	236.3	5.95	2 6 0.0	3	0.1	26
86.710	236.2	5.93	2n 0.1		26-Inch	

11956	STF 2437		19 01.9 +19 11						
77.631	29.1	0.53	1	6	0.0	3	0.2	26	
77.743	28.2	0.57	2	4	-0.3	3	0.2	26	
77.746	28.2	0.65	2	6	0.0	3	0.2	26	
77.760	26.8	0.58	2	6	+0.1	3	0.2	26	
81.579	24.1	0.60	2	6	0.0	3	0.8	26	
81.637	25.3	0.60	2	5	0.0	3	0.0	26	
81.645	25.2	0.65	2	5	0.0	3	0.2	26	
81.650	25.8	0.63	2	7	0.0	3	0.4	26	
77.720	28.1	0.58	4n	0.2	26-Inch				
81.628	25.1	0.62	4n	0.3	26-Inch				
11953	A 41		19 02.2 -06 42						
76.703	183.6	0.44	1	5	+0.1	3	0.1	26	
76.728	180.7	0.47	1	5	0.0	3	0.3	26	
77.746	177.0	0.40	1	5	0.0	3	0.1	26	
77.760	178.3	0.40	1	6	+0.2	3	0.2	26	
77.234	179.9	0.43	4n	0.2	26-Inch				
11963	A 42		19 02.6 -06 20						
80.654	60.4	0.87	2	6	0.0	3	0.1	26	
80.676	63.0	0.93	2	6	0.0	3	0.3	26	
80.700	62.1	0.99	2	5	+0.1	3	0.3	26	
80.677	61.8	0.93	3n	0.2	26-Inch				
11974	A 2195		19 02.9 +01 47						
80.676	38.4	1.97	1	6	0.0	3	4.0	26	
80.720	32.7	1.82	1	5	0.0	3	3.5	26	
80.766	39.1	1.99	2	5	+0.2	3	3.8	26	
80.721	36.7	1.93	3n	3.8	26-Inch				
11997	STF 2451		19 03.0 +51 35						
87.558	77.9	1.96	2	,	0.0	3	0.2	26	
87.572	79.3	1.91	2	7	0.0	3	0.1	26	
87.635	81.5	1.95	2	5	0.0	3	0.2	26	
87.667	81.8	2.01	2	5	-0.1	3	0.0	26	
87.608	80.1	1.96	4n	0.1	26-Inch				
11990	A 589		19 03.1 +42 33						
81.653	5.6	0.79	2	7	0.0	3	1.0	26	
81.656	6.5	0.70	2	6	0.0	4	1.0	26	
81.697	9.3	0.78	2	5	0.0	3	1.2	26	
81.735	10.3	0.73	2	6	-0.1	4	0.8	26	
81.685	7.9	0.75	4n	1.0	26-Inch				

11981	A 360		19 03.5 +07 18						
79.715	286.6	0.69	2	5	0.0	3		26	
79.718	290.0	0.53	2	7	+0.1	3	0.3	26	
80.651	288.8	0.56	2	7	0.0	3	0.3	26	
80.028	288.5	0.59	3n	0.3	26-Inch				
11998	A 2992		19 03.8 +26 42						
81.579	268.0	0.27	2	5	0.0	3		26	
81.631	271.6	0.24	2	5	0.0	3	0.0	26	
81.637	261.3	0.29	2	5	+0.1	3		26	
81.645	268.5	0.29	2	5	0.0	3	0.1	26	
85.587	270.5	0.18	2	7	0.0	4		26	
85.589	270.5	0.23	2	7	0.0	3		26	
85.644	274.9	0.31	2	6	0.0	3	0.0	26	
85.658	280.6	0.34	2	5	-0.2	3		26	
81.623	267.4	0.27	4n	0.0	26-Inch				
85.620	274.1	0.26	4n	0.0	26-Inch				

Dommanget, 1979: +7.9, +0.01; +19.3, 0.00. Quadrant in doubt. The orbit fails.

12016	DA 9		19 04.3 +43 53						
87.558	172.9	2.05	2	7	0.0	3	3.5	26	
87.572	174.8	2.11	2	7	0.0	3	3.0	26	
87.635	176.7	1.93	2	5	0.0	3	2.6	26	
87.667	174.6	1.98	2	5	-0.1	3	3.0	26	
87.608	174.8	2.02	4n	3.0	26-Inch				
12035	A 1389		19 05.0 +55 53						
78.512	49.1	0.20	2	6	0.0	3	0.0	26	
78.551	58.9	0.19	2	8	-0.2	3	0.2	26	
78.642	63.5	0.21	2	6	0.0	3	0.0	26	
78.644	62.0	0.23	2	4	0.0	3	0.0	26	
78.587	58.4	0.21	4n	0.0	26-Inch				
12021	BU 466		19 05.2 +10 50						
81.697	164.9	1.92	2	5	0.0	3	0.4	26	
81.730	163.8	2.01	2	4	-0.2	3	0.7	26	
81.733	164.3	1.94	2	3	0.0	3	0.8	26	
81.720	164.3	1.96	3n	0.6	26-Inch				
12033	HU 940		19 05.5 +33 52						
80.654	205.8	0.46	2	7	+0.1	3	0.3	26	
80.657	203.8	0.46	2	7	+0.3	3	0.3	26	
80.659	209.3	0.61	2	7	+0.1	3	0.3	26	
80.676	205.5	0.49	2	6	+0.1	3	0.3	26	
86.422	199.9	0.56	2	5	0.0	3	0.2	26	
86.463	202.3	0.67	2	5	-0.1	3	0.2	26	
86.660	202.6	0.55	2	6	0.0	3	0.0	26	
86.690	205.0	0.59	2	7	-0.1	3	0.3	26	
80.662	206.1	0.50	4n	0.3	26-Inch				
86.559	202.4	0.59	4n	0.2	26-Inch				

Baize, 1980: +3.3, +0.05; +3.7, +0.14.

12032 HO 95 19 05.6 +27 17

80.772	185.1	0.22	2	5	0.0	3	0.0	26
81.631	190.3	0.19	2	5	+0.2	3		26
81.645	179.6	0.15	2	5	+0.1	3	0.0	26
81.650	185.8	0.16	2	7	0.0	5	0.2	26
84.648	185.9	0.17	2	7	+0.1	3		26
84.716	185.8	0.18	2	7	+0.2	3	0.0	26
84.719	183.0	0.21	2	5	0.0	3	0.2	26
81.424	185.2	0.18	4n	0.1			26-Inch	
84.694	184.9	0.19	3n	0.1			26-Inch	

12040 STF 2454 19 06.2 +30 26

85.658	286.7	1.14	2	5	-0.1	3	1.0	26
86.422	283.8	1.21	2	6	-0.1	3	0.7	26
86.463	285.6	1.21	2	5	0.0	3	1.2	26
86.660	285.3	1.40	2	6	0.0	3	1.0	26
86.301	285.4	1.24	4n	1.0			26-Inch	

Baize, 1976: +3.9, 0.00.

12113 STT 369 19 07.1 +72 05

87.667	14.5	0.68	1	5	-0.1	3	0.3	26
87.670	15.4	0.63	1	7	-0.1	3	0.3	26
87.760	14.9	0.78	1	5	-0.1	3	0.3	26
87.699	14.9	0.70	3n	0.3			26-Inch	

12071 STF 2466 19 07.9 +29 48

86.709	104.4	2.44	2	7	0.0	3	0.1	26
86.747	103.5	2.36	2	6	0.0	3	0.4	26
86.767	102.9	2.36	2	6	0.0	3	0.3	26
86.741	103.6	2.39	3n	0.3			26-Inch	

12063 J 812 19 07.9 +09 27

79.693	121.5	2.35	2	5	0.0	3	0.7	26
80.449	120.5	2.43	2	5	0.0	3	0.4	26
80.651	120.0	2.57	2	7	0.0	3	0.5	26
80.264	120.7	2.45	3n	0.5			26-Inch	

12067 J 813 19 08.1 +09 32

79.715	9.3	1.57	2	5	0.0	3		26
79.718	7.0	1.35	2	7	+0.1	3	0.3	26
80.654	7.1	1.20	1	7	+0.2	3	0.4	26
80.029	7.8	1.37	3n	0.4			26-Inch	

12079 HO 98 19 08.2 +27 06

86.712	89.4	0.23	2	7	0.0	3	0.0	26
86.767	84.8	0.25	2	8	-0.1	3	0.0	26
86.788	86.8	0.27	2	7	+0.1	3	0.0	26
86.802	88.5	0.26	2	7	+0.4	3	0.0	26
86.767	87.4	0.25	4n	0.0			26-Inch	

12102 HO 444 19 09.2 +26 56

79.693	68.6	1.22	2	5	0.0	3	1.2	26
79.715	68.4	1.47	2	5	0.0	3	1.8	26
79.718	70.2	1.33	2	7	+0.1	3	2.0	26
79.709	69.1	1.34	3n	1.7			26-Inch	

12108 A 863 19 09.8 -00 17

77.746	139.7	0.34	3	6	0.0	3	1.4	26
77.760	140.5	0.38	3	6	+0.1	3	0.6	26
78.512	134.1	0.40	2	6	+0.2	3	1.2	26
78.006	138.1	0.37	3n	1.1			26-Inch	

12144 A 1391 19 10.6 +54 29

81.735	262.6	0.19	2	5	0.0	4		26
81.735	262.6	0.19	1n				26-Inch	

Baize, 1987: +14.8, +0.04.

12137 A 590 19 10.6 +41 38

81.735	331.9	0.51	2	5	-0.1	4	0.4	26
84.719	337.1	0.49	2	5	-0.1	3	0.4	26
84.724	335.0	0.43	2	6	0.0	3	0.2	26
83.726	334.7	0.48	3n	0.3			26-Inch	

12145 SE 2 BC 19 11.1 +38 47

77.631	100.0	0.49	2	6	0.0	3	0.2	26
77.746	99.1	0.51	3	6	0.0	3	0.4	26
77.760	102.1	0.55	2	6	+0.2	3	0.4	26
81.637	94.8	0.49	2	5	0.0	3	0.3	26
81.645	95.2	0.54	2	5	+0.2	3	0.2	26
81.650	96.0	0.55	2	7	0.0	5	0.3	26
81.653	94.4	0.55	2	7	-0.1	3	0.3	26
84.721	93.6	0.49	2	4	0.0	3	0.3	26
84.724	94.7	0.49	2	5	+0.1	3	0.2	26
85.587	94.1	0.61	2	6	0.0	3	0.2	26
85.589	92.9	0.61	2	6	0.0	3	0.2	26
85.644	94.4	0.67	2	6	0.0	3	0.2	26
77.712	100.4	0.52	3n	0.3			26-Inch	
81.646	95.1	0.53	4n	0.3			26-Inch	
85.253	93.9	0.57	5n	0.2			26-Inch	

Baize, 1969: +1.4, +0.06; 0.0, +0.02;
+1.9, +0.03.

12147 BU 1204 19 12.0 +02 37

80.772	189.5	0.25	1	5	0.0	3	0.7	26
81.650	183.0	0.22	1	6	+0.1	5	0.5	26
81.653	182.8	0.28	1	7	0.0	3	0.5	26
81.656	187.7	0.20	1	6	0.0	4	0.8	26
81.433	185.8	0.24	4n	0.6			26-Inch	

12174 ES 1162 19 12.3 +47 12

84.719	85.7	2.14	2	5	0.0	3	0.6	26	
84.722	87.8	2.00	2	6	-0.1	3	0.8	26	
84.720	86.8	2.07	2n		0.7			26-Inch	

12161 HU 941 19 12.3 +32 15

76.728	146.9	1.00	1	6	0.0	3	3.5	26	
77.574	147.0	1.05	1	6	+0.2	4	4.5	26	
77.631	148	1.17	1	6	+0.1	3	3.5	26	
77.311	47.3	1.07	3n		3.8			26-Inch	

COU 320 19 12.3 +21 13

86.709	111.5	0.18	2	6	0.0	3		26	
86.712	113.7	0.20	2	6	0.0	3		26	
86.767	107.6	0.17	2	7	0.0	3		26	
86.729	110.9	0.18	3n					26-Inch	

OL 22 19 12.4 -33 04

78.784	328.7	0.16	2	8	+1.2	1	0.2	36	
78.789	331.0	0.19	2	7	+1.5	1	0.2	36	
84.773	4.5	0.31	2	6	+0.5	3	0.0	60	
84.776	5.3	0.35	2	4	+0.8	3		60	
84.784	5.6	0.29	2	6	+0.9	3	0.2	60	
78.786	329.8	0.18	2n		0.2			36-Inch	
84.778	5.1	0.32	3n		0.1			60-Inch	

Worley, 1981: -0.4, -0.03; +3.0, 0.00.

J 2168 19 12.5 +03 06

86.463	337.6	3.20	2	5	0.0	3	0.2	26	
86.660	337.7	2.95	2	5	0.0	3	0.0	26	
86.690	335.6	3.13	2	7	0.0	3	0.2	26	
86.604	337.0	3.09	3n		0.1			26-Inch	

12172 STF 2482 19 13.0 +19 08

81.656	344.4	1.78	2	6	0.0	4	1.2	26	
81.730	345.4	1.73	2	4	-0.1	3	1.2	26	
81.733	344.9	1.89	2	3	0.0	3	1.2	26	
81.706	344.9	1.80	3n		1.2			26-Inch	

12176 A 153 19 13.2 +21 54

80.700	279.5	0.87	2	5	0.0	3	2.2	26	
80.720	278.1	0.83	2	6	0.0	3	2.4	26	
80.766	281.5	0.76	2	5	+0.1	3	2.2	26	
80.729	279.7	0.82	3n		2.3			26-Inch	

12201 STF 2484 19 14.3 +19 04

81.697	238.3	2.32	2	5	0.0	3	1.5	26	
81.730	240.1	2.28	2	4	-0.2	3	1.8	26	
81.733	240.5	2.42	2	3	+0.1	3	1.5	26	
81.720	239.6	2.34	3n		1.6			26-Inch	

Hopmann, 1973: +3.8, +0.16.
The "orbit" rests on an arc length of some 20 degrees.

12215 BU 975 BC 19 14.5 +34 33

85.589	259.5	1.40	2	6	0.0	3	0.3	26	
85.644	260.2	1.26	2	6	+0.2	3	0.5	26	
85.658	261.5	1.26	2	5	-0.3	3	0.2	26	
85.630	260.4	1.31	3n		0.3			26-Inch	

There has been a considerable increase in angle and separation.

12228 STF 2488 19 15.5 +20 02

81.656	347.3	1.74	2	6	0.0	4	0.8	26	
81.697	347.0	1.69	2	5	0.0	3	1.2	26	
81.730	348.0	1.59	2	4	-0.1	3	1.2	26	
81.694	347.4	1.67	3n		1.1			26-Inch	

12257 A 156 19 16.7 +24 17

80.700	61.1	0.30	2	5	+0.1	3	0.5	26	
80.720	58.4	0.25	2	5	0.0	3	0.2	26	
80.766	60.3	0.31	2	5	+0.2	3	0.3	26	
80.769	57.2	0.29	2	7	+0.1	3	0.4	26	
84.623	62.9	0.28	2	7	+0.1	3	0.3	26	
84.648	60.6	0.30	2	6	+0.1	3	0.2	26	
84.713	59.7	0.23	2	7	+0.1	3	0.3	26	
80.739	59.2	0.29	4n		0.4			26-Inch	
84.661	61.1	0.27	3n		0.3			26-Inch	

RST 4036 9 16.7 -45 53

78.803	200.8	0.17	2	5	+1.7	1		60	
78.806	202.0	0.17	2	6	+2.0	1	0.2	60	
78.808	203.0	0.18	3	7	+2.0	1	0.2	60	
84.787	275.7	0.14	2	7	+1.1	3	0.0	60	
84.790	272.4	0.15	2	7	+1.2	3	0.0	60	
84.793	281.7	0.15	2	7	+1.2	3	0.1	60	
78.806	201.9	0.17	3n		0.2			60-Inch	
84.790	276.6	0.15	3n		0.0			60-Inch	

Heintz, 1979: -1.0, -0.02; +8.4, -0.04.
1984: -1.6, -0.03; +4.9, -0.02.

12296 STF 2509 19 16.9 +63 13

87.558	328.4	1.85	2	7	0.0	3	0.3	26	
87.572	329.2	1.72	2	6	0.0	3		26	
87.635	329.1	1.71	2	5	-0.1	3	0.3	26	
87.667	328.6	1.59	4	5	0.0	3	0.8	26	
87.608	328.8	1.72	4n		0.4			26-Inch	

12294 ES 1845 19 16.9 +62 00

87.558	154.6	5.51	2	7	+0.1	3	3.5	26
87.635	152.2	5.59	2	5	0.0	3	3.5	26
87.667	153.6	5.75	2	5	0.0	3	4.0	26
87.620	153.5	5.62	3n		3.8		26-Inch	

12269 HU 336 19 17.2 +18 53

80.651	194.9	1.46	2	6	0.0	3	0.3	26
80.654	194.2	1.32	1	7	0.0	3	0.3	26
80.657	193.6	1.51	2	6	-0.4	3	0.2	26
80.654	194.2	1.43	3n		0.3		26-Inch	

GLE 3 19 17.3 -66 40

78.784	301.6	0.38	2	8	+0.9	1	0.4	36
78.789	300.7	0.42	2	6	+1.4	1	0.5	36
84.787	307.6	0.47	2	7	+1.0	3	0.5	60
84.790	310.2	0.41	2	7	+1.1	3	0.5	60
84.793	309.8	0.45	2	7	+1.1	3	0.4	60
78.786	301.2	0.40	2n		0.4		36-Inch	
84.790	309.2	0.44	3n		0.4		60-Inch	

Heintz, 1973: -4.0, -0.09; -5.6, -0.08.

12286 A 267 19 17.5 +26 38

80.769	181.2	0.39	2	6	+0.1	3	0.5	26
80.772	186.6	0.54	2	6	+0.1	3	0.3	26
81.631	178.4	0.42	2	6	0.0	3	0.7	26
81.650	175.6	0.31	2	6	+0.2	5	0.4	26
81.206	180.4	0.42	4n		0.5		26-Inch	

12287 BU 248 19 17.7 +23 02

79.715	121.8	1.81	2	5	0.0	3	3.0	26
79.718	125.1	1.63	2	7	0.0	3	3.0	26
80.449	125.8	1.64	2	5	0.0	3	2.0	26
79.960	124.2	1.69	3n		2.7		26-Inch	

12275 A 2268 19 17.8 +03 18

80.772	213.0	0.62	1	4	0.0	3	0.8	26
81.650	216.6	0.56	2	6	0.0	5	0.6	26
81.653	211.6	0.60	2	7	0.0	3	0.7	26
81.656	212.7	0.61	2	6	0.0	4	0.7	26
81.433	213.5	0.60	4n		0.7		26-Inch	

HEI 175 19 18.5 +16 25

86.463	165.4	1.72	1	5	0.0	3	1.6	26
86.660	165.5	1.77	1	6	0.0	3	1.5	26
86.690	164.6	1.71	2	6	-0.1	3	1.2	26
86.604	165.2	1.73	3n		1.4		26-Inch	

12315 A 1393 19 18.6 +53 58

78.644	251.8	0.78	2	5	-0.1	3	1.2	26
78.680	251.8	0.71	2	7	-0.1	3	1.3	26
78.721	251.3	0.71	2	5	-0.1	3	1.0	26
78.682	251.6	0.73	3n		1.2		26-Inch	

I 253 19 19.0 -33 16

78.784	140.9	0.57	2	8	+1.2	1	0.2	26
78.789	142.1	0.53	2	7	+1.4	2	0.2	26
78.786	141.5	0.55	2n		0.2		36-Inch	

van den Bos, 1954: +2.2, -0.14.

VBS 19 19.2 +28 44

76.728	93.6	2.25	2	7	0.0	3	0.3	26
78.529	93.4	1.90	2	6	0.0	3	0.3	26
78.721	96.4	2.05	2	5	-0.1	3	0.1	26
86.709	100.1	2.25	2	6	0.0	3	0.5	26
86.712	96.9	2.15	2	6	0.0	3		26
77.993	94.5	2.07	3n		0.2		26-Inch	
84.710	98.5	2.20	2n		0.5		26-Inch	

I cannot find the neighboring DOO pair, and strongly suspect it is identical with this one.

12306 J 485 19 19.3 +05 35

81.653	70.2	2.30	2	7	0.0	3	0.8	26
81.735	72.3	2.26	2	5	0.0	4	0.7	26
81.694	71.2	2.28	2n		0.8		26-Inch	

There has been a large increase in separation. Last measured in 1952.

12329 HWE 47 19 20.6 +02 56

78.642	311.7	0.38	2	7	-0.1	3	0.2	26
78.644	311.9	0.35	2	5	0.0	3	0.3	26
78.680	313.5	0.45	2	6	0.0	3	0.1	26
84.719	308.8	0.45	2	5	-0.1	3	0.2	26
84.724	307.4	0.42	2	5	0.0	3	0.3	26
85.559	308.8	0.47	2	7	+0.2	3	0.3	26
78.655	312.4	0.39	3n		0.2		26-Inch	
85.000	308.3	0.45	3n		0.3		26-Inch	

12340 HU 338 19 21.2 +17 51

78.529	130.8	0.20	2	6	0.0	3	0.0	26
78.642	135.1	0.23	2	7	0.0	3	0.0	26
78.680	138.3	0.21	2	6	+0.2	3	0.0	26
78.617	134.7	0.21	3n		0.0		26-Inch	

12366 BU 1129 19 21.6 +52 22

73.732 Not seen 7 +0.1 4 26

Computed separation from Baize's orbit (1984) is 0.03" at this epoch.

HLR 220 19 24.7 +59 24

87.635	339.3	0.62	2	5	0.0	3		26
87.667	342.8	0.66	2	5	0.0	3		26
87.670	341.5	0.71	2	7	-0.1	3	0.2	26
87.657	341.2	0.66	3n		0.2		26-Inch	

12410 J 1304 19 24.8 +11 37

79.715	59.9	2.29	2	5	-0.1	3	0.6	26
79.718	60.2	2.16	2	7	0.0	3	1.0	26
80.449	60.1	2.16	2	5	-0.1	3	1.0	26
79.961	60.1	2.20	3n		0.9		26-Inch	

12414 STF 2513 19 25.2 +02 27

84.719	326.0	2.02	2	5	+0.2	3	0.8	26
84.724	325.9	1.94	2	6	0.0	3	0.7	26
85.587	326.9	2.05	2	6	-0.1	4	0.7	26
85.010	326.3	2.00	3n		0.7		26-Inch	

12439 A 709 19 25.4 +46 31

78.721	66.8	0.56	2	4	0.0	3	0.5	26
78.737	64.1	0.47	2	5	0.0	3	0.5	26
79.693	61.2	0.52	2	4	0.0	3	0.3	26
79.050	64.0	0.52	3n		0.4		26-Inch	

12422 A 365 19 25.6 +07 58

77.574	152.6	1.15	1	6	0.0	4	4.0	26
77.746	153.8	1.36	1	6	0.0	3	2.8	26
77.760	157.1	1.47	1	5	0.0	3	3.5	26
77.693	154.5	1.33	3n		3.4		26-Inch	

12447 STF 2525 19 26.6 +27 19

81.637	293.3	1.87	2	5	-0.1	3	0.2	26
81.645	293.5	1.83	2	5	0.0	3	0.2	26
81.656	292.7	1.82	2	7	0.0	4	0.3	26
81.730	293.0	1.82	2	4	-0.2	3	0.3	26
81.667	293.1	1.84	4n		0.2		26-Inch	

Heintz, 1984: +0.5, +0.01.

POP 33 19 26.8 +34 57

84.623	234.6	0.85	2	7	0.0	3	0.3	26
84.648	232.0	0.85	2	6	+0.2	3	0.2	26
84.713	234.0	0.88	2	6	+0.2	3	0.2	26
84.661	233.5	0.86	3n		0.2		26-Inch	

12524 STF 2550 19 27.0 +73 21

77.631	72.7	1.86	2	7	0.0	3	0.0	26
77.746	72.1	1.86	2	7	0.0	3	0.0	26
77.760	71.1	1.76	2	6	0.0	3	0.0	26
77.712	72.0	1.83	3n		0.0		26-Inch	

RST 1035 19 27.5 -54 58

84.773	283.3	0.54	2	7	+0.5	3	0.3	60
84.776	282.0	0.41	2	7	+0.4	3	0.0	60
84.782	281.2	0.35	2	6	0.0	3	0.2	60
84.777	282.2	0.43	3n		0.2		60-Inch	

COU 514 19 27.6 +20 09

86.767	90.5	0.43	2	7	-0.2	3	0.7	26
87.558	94.1	0.57	2	6	0.0	3	0.4	26
87.635	97.9	0.40	2	5	0.0	3	0.3	26
87.670	86.9	0.43	2	7	0.0	3	0.6	26
87.408	92.4	0.46	4n		0.5		26-Inch	

12465 A 1182 19 27.6 +09 10

80.651	294.5	0.61	2	6	0.0	2	0.7	26
80.654	294.1	0.66	2	8	0.0	3	0.6	26
80.676	295.5	.67	2	6	-0.2	3	1.4	26
80.660	294.7	0.65	3n		0.9		26-Inch	

12469 SCJ 22 19 28.2 -12 09

78.551	108.3	0.38	2	7	-0.2	3	0.2	26
78.642	110.3	0.40	2	6	0.0	3	0.2	26
78.644	109.9	0.36	2	5	+0.1	3	0.2	26
78.680	110.8	0.41	2	6	+0.2	3	0.2	26
81.631	132.7	0.38	2	5	-0.1	3		26
81.645	129.6	0.43	2	5	+0.1	3		26
81.650	128.4	0.38	2	5	+0.1	5	0.3	26
81.653	130.4	0.40	2	6	-0.1	3	0.3	26
85.559	173.6	0.41	1	6	+0.1	3	0.2	26
85.587	173.9	0.40	1	5	0.0	4	0.4	26
85.589	173.6	0.36	1	5	0.0	3	0.6	26
85.644	172.8	0.35	1	5	0.0	3		26
86.660	182.8	0.50	4	5	0.0	3		26
86.690	182.8	0.55	1	6	-0.1	3		26
86.709	181.8	0.38	1	5	0.0	3		26
86.712	183.4	0.41	1	5	-0.1	3	0.5	26
87.558	190.3	0.46	1	7	0.0	3	0.3	26
87.670	196.4	0.51	1	7	0.0	3	0.5	26
87.760	192.4	0.47	2	5	-0.1	3	0.4	26
78.629	109.8	0.39	4n		0.2		26-Inch	
81.645	130.3	0.40	4n		0.3		26-Inch	
85.595	173.5	0.38	4n		0.3		26-Inch	
86.693	182.7	0.46	4n		0.5		26-Inch	
87.663	193.0	0.48	3n		0.4		26-Inch	

Heintz, 1985: +1.7, -0.08; -2.4, -0.04;
+4.9, -0.05; +4.3, +0.02;
+6.2, +0.03.
Earlier Heintz(1975) and Baize(1984) orbits predicted T too late, and e too small. This orbit is better, but will need revision in the same sense. A later orbit by Baize gives worse residuals.

12501	A 160		19 28.8 +23 04				
80.700	67.6	0.30	2 5	-0.1	3	0.1	26
80.720	71.3	0.31	2 6	-0.1	3	0.2	26
80.766	70.4	0.33	2 6	0.0	3	0.3	26
80.729	69.8	0.31	3n	0.2		26-Inch	

12502	A 1651		19 29.0 +15 14				
81.631	258.9	0.35	2 5	+0.1	3	1.2	26
81.650	270.7	0.28	2 5	+0.1	3	1.0	26
81.653	256.6	0.25	2 7	+0.1	3	1.3	26
81.656	263.6	0.27	2 6	0.0	4	1.0	26
81.648	262.4	0.29	4n	1.1		26-Inch	

12503	KUI 91		19 29.4 -07 03				
80.654	229.3	1.54	1 8	+0.1	3	4.5	26
80.676	234.9	1.56	1 6	-0.1	3	4.5	26
80.720	232.5	1.78	3 5	0.0	3	4.2	26
80.683	232.2	1.63	3n	4.4		26-Inch	

12508	A 2197		19 29.5 +03 05				
81.653	247.1	2.79	2 7	0.0	3	4.0	26
85.589	246.3	2.69	2 6	0.0	3	4.5	26
85.644	249.0	2.66	2 6	0.0	3	3.5	26
84.295	247.5	2.71	3n	4.0		26-Inch	

12515	A 1653		19 29.6 +12 24				
80.769	196.2	0.22	2 7	0.0	3	1.0	26
81.650	192.9	0.20	3 5	+0.2	5	1.0	26
81.653	191.4	0.26	2 7	+0.1	3	1.2	26
81.656	194.7	0.24	2 6	+0.1	4	1.2	26
81.432	193.8	0.23	4n	1.1		26-Inch	

Heintz, 1963: +3.1, 0.00.

12505	HU 75		19 29.6 -12 39				
80.651	286.0	0.44	2 5	0.0	3	0.5	26
80.654	286.2	0.44	2 7	0.0	3	0.4	26
80.657	287.4	0.47	2 5	+0.4	3	0.6	26
80.659	285.0	0.47	2 7	0.0	3	0.5	26
86.660	291.9	0.47	2 5	0.0	3		26
86.690	291.5	0.54	2 5	-0.1	3	0.4	26
86.709	295.3	0.38	2 5	+0.1	3	0.4	26
86.712	296.9	0.44	2 5	0.0	3	0.3	26
80.655	286.2	0.46	4n	0.5		26-Inch	
86.693	293.9	0.46	4n	0.4		26-Inch	

Baize, 1987: +4.5, -0.10; +2.7, -0.05.

12535	BU 143		19 29.9 +49 31				
77.763	193.6	2.12	2 5	0.0	3	1.0	26
78.721	192.8	2.13	2 5	+0.1	3	1.0	26
78.737	192.1	2.14	2 5	0.0	3	1.4	26
78.407	192.8	2.13	3n	1.1		26-Inch	

12519	A 2274		19 30.1 +02 19				
79.715	257.8	3.46	2 5	0.0	3	2.8	26
79.718	256.5	3.18	2 6	0.0	3	2.8	26
80.449	255.5	3.28	2 5	-0.1	3	2.5	26
79.961	256.6	3.31	3n	2.7		26-Inch	

12532	A 269		19 30.6 +27 15				
84.716	203.1	0.73	2 6	0.0	3	0.6	26
84.724	204.2	0.59	1 6	0.0	3	0.6	26
85.559	201.7	0.61	2 6	+0.2	3	0.4	26
85.000	203.0	0.64	3n	0.5		26-Inch	

12540	MCA 55 AP		19 30.7 +27 58				
79.715	183.5	0.41	1 5	+0.5	3	1.4	26
79.718	192.8	0.39	4 5	+0.1	3	1.8	26
79.797	185.6	0.43	3 8	-0.5	3	1.4	26
79.800	186.2	0.36	3 6	-0.8	3	1.5	26
79.808	185.5	0.43	2 6	-0.7	3	1.6	26
79.827	187.2	0.51	1 4	+0.1	3	1.5	26
79.830	186.9	0.41	1 5	+0.1	3	1.6	26
81.804	173.3	0.46	3 5	-0.2	3	2.0	26
81.807	178.3	0.41	3 6	0.0	3	1.8	26
81.826	175.4	0.43	3 6	+0.2	3	1.8	26
81.842	175.8	0.50	2 6	+0.3	3	1.8	26
79.785	186.8	0.42	7n	1.5		26-Inch	
81.820	175.7	0.45	4n	1.9		26-Inch	

Beta Cygni, first resolved by speckle. Retrograde orbital motion.

12577	HU 951		19 30.8 +63 37				
76.613	105.2	0.18	2 6	0.0	4	0.0	26
77.746	124.0	0.16	3 5	+0.1	3	0.0	26
77.760	112.0	0.21	2 6	+0.1	3	0.0	26
77.763	112.7	0.16	2 5	0.0	3	0.0	26
77.470	113.5	0.18	4n	0.0		26-Inch	

Costa, Docobo, 1983: -9.7, +0.06.
Baize, 1984: -8.3, +0.01.

This is the first positive measure since 1962; not used in either computation. Two recent measures by Heintz give large residuals from both predictions, and a measure by Muller is completely anomalous.

12563	STT 374		19 31.1 +50 12				
87.667	290.9	19.50	2 5	0.0	3	3.0	26
87.760	292.8	19.81	2 5	-0.2	3	4.0	26
87.788	291.1	19.51	2 5	0.0	3	4.0	26
87.738	291.6	19.61	3n	3.7		26-Inch	

12586	BU 655		19 31.2 +63 19				
77.631	330.6	2.04	1 7	0.0	3	4.5	26
80.720	330.2	2.07	2 6	0.0	3	4.0	26
80.766	332.3	2.14	4 4	0.0	3	4.5	26
79.706	331.0	2.08	3n	4.3		26-Inch	

12546	A 161		19 31.2 +22 01				
78.551	120.6	0.17	2 7	0.0	3		26
78.642	122.5	0.18	2 6	0.0	3		26
78.680	125.4	0.18	2 6	+0.2	3		26
78.624	122.8	0.18	3n			26-Inch	

12538	D 20		19 31.2 -02 07				
79.715	67.3	1.29	2 4	0.0	3	2.4	26
79.718	69.2	1.18	2 6	0.0	3	1.8	26
80.449	60.2	1.29	2 5	0.0	3	2.0	26
80.651	63.6	1.40	2 6	0.0	3	2.6	26
80.133	65.1	1.29	4n	2.2		26-Inch	

The primary is the eclipsing system V822 Aql.

12596	HU 948		19 33.2 +32 54				
80.772	161.9	0.33	2 5	0.0	3	0.8	26
81.631	155.8	0.29	2 5	0.0	3	0.8	26
81.645	155.1	0.29	2 4	+0.1	3		26
81.653	159.1	0.27	2 6	+0.1	3	0.8	26
81.425	158.0	0.30	4n	0.8		26-Inch	

12600	HO 108		19 33.3 +33 29				
81.653	27.7	0.26	2 7	+0.2	3	0.0	26
81.656	32.7	0.23	2 5	+0.1	4	0.2	26
81.735	33.3	0.22	2 5	-0.1	4	0.0	26
81.785	24.0	0.26	2 5	-0.1	3	0.2	26
81.707	29.4	0.24	4n	0.1		26-Inch	

12626	STF 2553		19 33.4 +62 03				
81.637	123.4	1.12	2 5	0.0	3	0.7	26
81.735	121.1	0.99	2 5	0.0	4	0.6	26
81.785	122.5	0.99	2 5	-0.3	3	0.8	26
81.787	123.7	1.07	2 7	-0.2	3	0.7	26
81.736	122.7	1.04	4n	0.7		26-Inch	

12605	HU 949		19 33.5 +33 06				
80.772	92.6	0.55	2 5	0.0	3	0.6	26
81.656	96.0	0.60	2 5	+0.2	4	0.8	26
81.735	91.9	0.56	2 5	0.0	4	0.3	26
81.785	89.1	0.59	2 5	-0.1	3	0.4	26
81.487	92.4	0.58	4n	0.5		26-Inch	

12629	A 715		19 33.6 +60 02				
77.574	350.8	0.54	1 6	0.0	4	1.0	26
77.631	348.9	0.50	1 6	+0.1	3	0.5	26
77.746	353.0	0.57	1 5	+0.1	3	0.7	26
77.650	350.9	0.54	3n	0.7		26-Inch	

12623	STT 375		19 34.7 +18 08				
80.772	175.3	0.67	4 5	0.0	3	0.6	26
80.810	182.8	0.57	1 6	+0.2	3	0.8	26
80.832	181.7	0.65	1 3	+0.6	3	0.8	26
81.631	180.0	0.66	2 4	+0.1	3	1.0	26
85.587	179.1	0.66	1 5	0.0	4	0.8	26
85.589	178.2	0.60	1 6	0.0	3	0.7	26
85.644	178.1	0.68	1 7	0.0	3	1.0	26
85.658	180.9	0.50	1 5	-0.4	3	1.0	26
81.011	180.0	0.64	4n	0.8		26-Inch	
85.620	179.1	0.61	4n	0.9		26-Inch	

12633	A 368		19 35.0 +29 47				
77.763	155.7	0.41	1 6	0.0	3	0.3	26
78.512	158.5	0.41	2 6	0.0	3	0.2	26
78.529	156.9	0.47	2 6	0.0	3	0.3	26
78.268	157.0	0.43	3n	0.3		26-Inch	

12631	A 162		19 35.0 +23 28				
84.623	263.6	0.19	2 8	0.0	3	0.0	26
84.713	253.8	0.21	2 6	+0.1	3		26
84.716	258.5	0.24	2 6	+0.1	3		26
87.558	259.1	0.26	2 6	0.0	3		26
87.635	263.8	0.25	2 5	0.0	3	0.0	26
87.670	257.4	0.27	2 7	0.0	3		26
87.760	256.0	0.29	2 6	-0.1	3	0.0	26
84.684	258.6	0.21	3n	0.0		26-Inch	
87.656	259.6	0.27	4n	0.0		26-Inch	

Erceg, 1975: - 6.2, -0.04; - 8.3, +0.01.
Zulevic, 1975: -10.9, 0.00; -14.5, +0.06.
The orbits fail.

	VYS		19 35.2 +08 25				
86.463	9.5	5.69	1 5	+0.1	3	1.0	26
86.660	8.8	5.58	1 6	0.0	3	2.5	26
86.690	7.6	5.33	1 6	-0.1	3	2.4	26
86.604	8.6	5.53	3n	2.0		26-Inch	

12634 BU 53 19 35.5 +11 26

86.788	249.5	1.68	2	6	-0.1	3	0.6	26	
86.802	249.5	1.75	2	6	0.0	3	0.7	26	
86.805	249.6	1.71	4	5	+0.2	3	0.7	26	
86.798	249.5	1.71	3n		0.7		26-Inch		

B 443 19 36.0 -36 08

84.773	196.6	0.32	2	6	+0.5	3	0.1	60	
84.776	193.4	0.30	3	4	+0.5	3		60	
84.787	191.2	0.22	2	7	+0.9	3	0.3	60	
84.779	193.7	0.28	3n		0.1		60-Inch		

I 651 19 36.0 -36 49

84.776	143.6	0.80	2	5	+0.6	3	0.5	60	
84.782	142.4	0.83	2	7	+0.8	3	0.5	60	
84.784	142.5	0.77	2	6	+0.6	3	0.7	60	
84.781	142.8	0.80	3n		0.6		60-Inch		

12691 STF 2555 19 36.2 +53 22

81.637	282.2	1.86	2	5	0.0	3	0.5	26	
81.735	282.2	1.96	2	5	0.0	4	0.6	26	
81.785	282.5	1.86	2	5	-0.2	3	0.6	26	
81.787	281.6	1.79	2	7	-0.2	3	0.6	26	
81.736	282.1	1.87	4n		0.6		26-Inch		

12679 STF 2544 AB 19 37.1 +08 18

86.788	189.9	0.96	1	6	-0.1	3	1.2	26	
86.802	190.9	1.27	1	6	+0.1	3	1.2	26	
86.805	188.6	1.21	1	5	+0.1	3	1.5	26	
86.798	189.8	1.15	3n		1.3		26-Inch		

AC

86.788	238.5	14.13	2	6	0.0	3	0.5	26	
86.802	238.0	14.14	2	6	+0.1	3	0.7	26	
86.805	238.2	14.11	2	5	+0.2	3	0.8	26	
86.798	238.2	14.13	3n		0.7		26-Inch		

VOU 34 19 37.6 -41 28

84.787	147.3	0.14	2	7	+1.0	3	0.0	60	
84.790	143.2	0.13	2	8	+1.0	3	0.0	60	
84.793	141.2	0.12	2	7	+1.0	3	0.0	60	
84.790	143.9	0.13	3n		0.0		60-Inch		

No measures since 1959.

OL 23 19 37.7 -34 44

84.776	323.1	0.58	2	5	+0.7	3	0.1	60	
84.782	321.6	0.69	2	6	+0.9	3	0.2	60	
84.787	319.5	0.58	2	7	+1.0	3	0.2	60	
84.782	321.4	0.62	3n		0.2		60-Inch		

12704 A 164 19 37.9 +22 48

81.787	229.1	0.25	2	7	0.0	3	1.2	26	
81.790	231.9	0.27	2	5	0.0	4	1.4	26	
81.807	239.2	0.30	2	6	+0.2	4	1.2	26	
81.795	233.4	0.27	3n		1.3		26-Inch		

12701 J 801 19 37.9 +09 17

81.785	79.2	1.61	2	5	0.0	3	0.0	26	
81.787	79.9	1.58	2	7	+0.1	3	0.0	26	
81.790	80.7	1.62	2	5	0.0	4	0.0	26	
81.787	79.9	1.62	3n		0.0		26-Inch		

HEI 176 19 37.9 +01 30

85.587	137.6	0.23	2	5	+0.1	4		26	
85.589	143.0	0.19	2	5	0.0	3		26	
85.644	139.2	0.19	2	6	+0.1	3	0.0	26	
86.660	146.8	0.26	2	5	0.0	3		26	
85.870	141.6	0.22	4n		0.0		26-Inch		

12698 A 106 19 37.9 -05 35

80.772	230.9	1.07	2	5	+0.1	3	0.3	26	
81.785	234.5	1.04	2	5	0.0	3	0.2	26	
81.787	230.7	0.99	2	8	-0.1	3	0.2	26	
81.448	232.0	1.03	3n		0.2		26-Inch		

12708 BU 249 19 38.3 +00 21

76.703	115.7	0.95	2	7	0.0	3	1.8	26	
76.728	114.4	0.93	2	5	+0.2	3	1.8	26	
77.760	115.8	1.01	2	5	+0.2	3	2.4	26	
84.648	114.0	0.98	2	5	+0.2	3	1.8	26	
84.713	113.9	0.99	2	6	+0.1	3	1.6	26	
84.716	113.3	0.91	2	6	+0.2	3	1.4	26	
77.064	115.3	0.96	3n		2.0		26-Inch		
84.692	113.7	0.96	3n		1.6		26-Inch		

12752 STF 2556 19 39.4 +22 16

77.763	39.6	0.33	2	6	+0.1	3	0.2	26	
78.512	35.7	0.32	2	6	0.0	3	0.3	26	
78.529	36.3	0.33	2	7	+0.1	3	0.3	26	
78.551	37.8	0.32	2	8	-0.1	3	0.3	26	
84.724	30.7	0.32	2	5	0.0	3	0.3	26	
86.690	25.7	0.40	2	6	0.0	3	0.5	26	
86.709	22.7	0.31	2	6	0.0	3	0.2	26	
86.712	23.9	0.35	2	7	0.0	3	0.4	26	
78.339	37.4	0.32	4n		0.3		26-Inch		
86.209	25.8	0.34	4n		0.3		26-Inch		

Baize, 1972: +0.1, -0.07; -0.9, -0.05.

12770 A 166 19 40.1 +23 31

84.724	245.3	0.72	2	5	+0.1	3	0.3	26
85.589	244.7	0.80	2	5	+0.1	3	0.1	26
85.644	243.8	0.78	2	7	+0.2	3	0.5	26
85.319	244.6	0.77	3n		0.3		26-Inch	

FIN 13 19 40.1 -31 36

84.776	88.2	0.50	2	4	+0.8	3	0.5	60
84.782	83.3	0.64	2	7	+0.9	3	0.7	60
84.784	85.5	0.63	2	6	+0.7	3	0.6	60
84.781	85.7	0.59	3n		0.6		60-Inch	

No measures for 40 years. Unchanged.

12803 STF 2574 19 40.5 +62 40

80.676	252.3	0.35	2	6	-0.1	3	0.1	26
80.700	253.2	0.38	2	4	0.0	3	0.0	26
80.720	254.1	0.38	2	6	0.0	3	0.2	26
80.766	253.5	0.41	2	4	0.0	3	0.0	26
80.716	253.5	0.41	4n		0.1		26-Inch	

KUI 93 19 41.1 +13 49

86.808	307.1	0.20	2	7	0.0	3		26
86.824	302.4	0.17	2	6	+0.1	3		26
86.830	304.6	0.20	2	7	+0.2	3		26
86.821	304.7	0.19	3n				26-Inch	

12786 BU 145 19 41.2 +30 43

79.715	273.8	1.02	2	5	0.0	3	1.5	26
79.718	272.9	0.86	2	6	+0.1	3	1.2	26
79.797	274.3	0.86	2	8	-0.3	3	1.5	26
79.800	273.2	0.81	2	6	-0.4	3	2.2	26
79.758	273.6	0.89	4n		1.6		26-Inch	

12798 STT 382 19 41.9 +27 23

86.808	327.9	0.33	2	7	0.0	3	0.4	26
86.824	325.0	0.29	2	5	+0.2	3	0.4	26
86.830	328.7	0.29	2	8	+0.3	3	0.4	26
86.821	327.2	0.30	3n		0.4		26-Inch	

12808 STT 380 19 42.6 +11 50

87.760	70.9	0.48	2	5	0.0	3	0.8	26
87.788	77.0	0.41	2	5	0.0	3	0.7	26
87.804	77.6	0.34	2	5	0.0	3	0.8	26
87.807	75.9	0.39	2	8	-0.1	3	0.8	26
87.790	75.4	0.40	4n		0.8		26-Inch	

12831 STT 383 19 43.0 +40 43

77.574	19.3	0.92	1	6	+0.1	4	1.5	26
77.631	14.3	0.80	1	6	+0.1	3	0.8	26
77.746	19.2	0.90	2	7	0.0	3	1.2	26
77.760	20.8	0.92	2	6	+0.1	3	1.0	26
77.678	18.4	0.88	4n		1.1		26-Inch	

RST 4047 19 43.5 -41 06

84.773	290.0	0.21	2	6	+0.6	3		60
84.782	296.4	0.14	2	7	+0.5	3	0.0	60
84.784	295.9	0.16	2	5	+0.8	3	0.0	60
84.780	294.1	0.17	3n		0.0		60-Inch	

Not measured since 1947. Considerable angular increase.

12851 STT 384 19 43.7 +38 19

77.574	197.8	1.01	2	5	+0.1	4	0.5	26
77.631	198.6	0.95	1	5	+0.1	3	0.3	26
77.746	198.3	0.95	2	6	+0.1	3	0.6	26
77.650	198.2	0.97	3n		0.5		26-Inch	

BAZ 19 44.4 +19 29

86.709	158.5	1.02	2	6	0.0	3	0.3	26
86.712	158.3	0.99	2	6	0.0	3		26
86.767	161.2	1.14	2	7	-0.3	3	0.3	26
86.729	159.3	1.05	3n		0.3		26-Inch	

12854 A 2389 19 44.6 +03 49

80.651	123.7	0.79	2	6	0.0	3	1.8	26
80.654	123.2	0.97	2	7	0.0	3	1.5	26
80.657	122.0	0.87	2	5	+0.3	3	1.5	26
80.654	123.0	0.88	3n		1.6		26-Inch	

J 1862 19 44.8 +12 51

86.709	228.6	9.18	2	6	+0.2	3	0.8	26
86.712	225.1	9.07	2	6	+0.1	3	0.7	26
86.710	226.8	9.12	2n		0.8		26-Inch	

If J's description is even approximately correct, there has been a large change.

HU 1608 19 44.8 -52 10

84.773	50.6	0.36	1	6	+0.7	3	0.2	60
84.782	50.4	0.31	2	7	+0.6	3	0.2	60
84.784	50.5	0.30	2	5	+0.7	3	0.4	60
84.780	50.5	0.32	3n		0.3		60-Inch	

12864 AGC 10 19 44.9 +10 46

87.635	140.0	0.23	2	5	0.0	3		26
87.670	139.3	0.23	2	7	0.0	3	0.0	26
87.760	136.4	0.26	2	6	-0.1	3	0.0	26
87.788	136.7	0.21	2	5	-0.1	3		26
87.713	138.1	0.23	4n		0.0		26-Inch	

12880 STF 2579 19 45.0 +45 08

79.715	234.7	2.29	2	5	0.0	3	2.6	26
79.718	231.9	2.37	2	7	0.0	3	2.8	26
79.797	236.4	2.40	2	8	-0.6	3	2.5	26
79.800	236.0	2.34	2	6	-0.5	3	2.5	26
85.559	230.8	2.40	2	7	0.0	3	3.2	26
85.587	229.7	2.42	2	5	0.0	4	3.0	26
85.589	230.5	2.42	2	5	0.0	3	3.0	26
85.644	231.5	2.48	2	7	0.0	3	2.8	26
87.788	228.7	2.25	2	5	-0.2	3	3.0	26
87.804	229.5	2.29	2	5	-0.2	3	3.0	26
87.807	228.6	2.38	2	8	-0.2	3	3.0	26
87.818	231.8	2.16	2	5	-0.2	3	3.0	26
79.758	234.8	2.35	4n		2.6		26-Inch	
85.595	230.6	2.43	4n		3.0		26-Inch	
87.804	229.6	2.27	4n		3.0		26-Inch	

Baize, 1973: +1.3, +0.01; +0.5, +0.04; +1.9, -0.13.
Scardia, 1983: -0.1, -0.08; -1.2, -0.05; -1.0, -0.22.

12889 STF 2576 19 45.6 +33 37

77.574	181.4	2.10	2	6	+0.1	4	0.0	26
77.631	181.6	2.00	2	6	+0.1	3	0.1	26
77.746	182.0	1.92	2	7	+0.1	3	0.0	26
79.715	178.7	2.17	2	5	0.0	3		26
79.718	177.6	2.04	2	7	+0.1	3	0.0	26
79.789	179.2	1.99	2	5	+0.2	3	0.2	26
81.637	176.2	2.14	2	5	0.0	3	0.0	26
81.645	177.2	2.22	2	4	0.0	3	0.1	26
81.656	176.8	2.12	2	5	+0.1	4	0.1	26
81.733	176.9	2.17	2	3	-0.2	3	0.2	26
85.559	172.2	2.13	2	7	+0.1	3	0.0	26
85.587	172.6	2.18	2	5	-0.2	4	0.0	26
85.589	173.3	2.17	2	6	+0.2	3	0.0	26
85.644	173.8	2.31	2	7	+0.1	3	0.0	26
77.650	181.7	2.01	3n		0.0		26-Inch	
79.741	178.5	2.07	3n		0.1		26-Inch	
81.668	176.8	2.16	4n		0.0		26-Inch	
85.595	173.0	2.20	4n		0.0		26-Inch	

Rabe, 1948: +2.6, +0.06; +1.4, +0.04; +1.5, +0.06; +0.9, -0.03.

12916 BU 828 19 46.9 +06 10

78.644	9.3	2.90	1	5	0.0	3	2.2	26
78.737	7.9	2.87	1	5	-0.1	3	2.4	26
79.693	7.4	2.90	1	4	-0.3	3	3.0	26
79.025	8.2	2.89	3n		2.5		26-Inch	

12911 A 108 19 47.1 -08 09

78.792	84.6	0.24	2	5	+0.8	1	0.3	60
78.800	83.8	0.24	2	5	+1.0	1	0.4	60
78.796	84.2	0.24	2n		0.4		60-Inch	

Heintz, 1985: -1.6, -0.03.

12948 DA 10 19 47.9 +24 14

80.772	312.2	0.70	2	4	0.0	3	0.8	26
80.807	308.8	0.80	2	4	+0.1	3	1.6	26
80.810	309.9	0.58	2	5	+0.1	3	1.2	26
80.796	310.3	0.69	3n		1.2		26-Inch	

12957 STF 2584 19 48.4 +22 12

78.721	295.0	1.87	2	5	0.0	3	0.0	26
78.737	294.4	1.83	2	5	0.0	3	0.1	26
79.693	294.7	1.88	2	4	-0.3	3	0.1	26
79.050	294.7	1.86	3n		0.1		26-Inch	

12972 STT 387 19 48.7 +35 19

79.715	171.5	0.65	2	5	+0.1	3	0.8	26
79.718	171.9	0.68	2	7	0.0	3	0.7	26
79.789	171.3	0.55	2	5	+0.2	3	0.4	26
79.741	171.6	0.63	3n		0.6		26-Inch	

Rabe, 1948: +2.6, +0.05.
Baize, 1961: +3.8, +0.03.

12961 A 1658 19 48.7 +15 04

77.763	252.5	0.22	2	6	+0.3	3	0.2	26
78.512	241.4	0.20	2	5	+0.1	3		26
78.529	242.5	0.19	2	7	0.0	3	0.4	26
81.787	222.5	0.18	2	8	0.0	4	0.3	26
81.790	222.5	0.19	2	6	-0.3	4	0.2	26
81.804	223.8	0.23	2	5	-0.2	3		26
81.807	220.2	0.20	2	6	-0.1	4	0.3	26
84.713	216.4	0.22	2	6	+0.2	3		26
84.716	211.9	0.20	2	6	+0.1	3	0.3	26
84.724	215.2	0.19	2	6	+0.1	3	0.4	26
78.268	245.5	0.20	3n		0.3		26-Inch	
81.797	222.2	0.20	4n		0.3		26-Inch	
84.718	214.5	0.20	3n		0.4		26-Inch	

Couteau, 1963: -1.6, -0.02; -9.6, -0.01; -4.3, -0.01.

J 2281 19 48.9 +19 59

84.719	22.7	6.08	2	4	0.0	3	0.4	26
86.463	20.6	6.14	1	5	-0.1	3	0.6	26
86.690	21.2	6.11	2	6	-0.1	3	0.1	26
85.957	21.5	6.11	3n		0.4		26-Inch	

This is the first measure.

12973 AGC 11 19 48.9 +19 08

86.808	179.8	0.22	1	8	-0.1	3	0.8	26
86.824	173.9	0.24	1	6	+0.2	3	0.6	26
86.830	173.7	0.23	3	7	+0.2	3	0.8	26
86.849	171.6	0.22	2	8	+0.4	3	0.7	26
86.828	174.8	0.23	4n		0.7			26-Inch

Heintz, 1984: +0.8, 0.00.
Tokovinen, 1984: -1.5, +0.04.

12986 A 718 BC 19 49.0 +44 23

79.797	33.1	0.23	2	8	-0.3	4	0.5	26
79.800	37.4	0.20	2	6	-0.3	3	0.3	26
79.808	45.6	0.22	2	6	-0.3	3	0.6	26
80.659	38.5	0.21	1	7	-0.1	3	0.2	26
80.016	38.6	0.22	4n		0.4			26-Inch

I 120 19 49.2 -61 49

78.773	133.4	0.48	2	7	0.0	1	0.1	36
78.776	134.4	0.45	2	4	0.0	1	0.1	36
78.781	131.2	0.41	2	4	+0.3	1	0.3	36
84.773	118.6	0.44	2	6	+0.7	3		60
84.782	120.5	0.39	2	6	+0.9	3	0.2	60
84.784	122.6	0.40	2	5	+0.8	3	0.3	60
84.790	120.2	0.36	2	8	+1.1	3	0.2	60
78.777	133.0	0.45	3n		0.2			36-Inch
84.782	120.5	0.40	4n		0.2			60-Inch

Wierzbinski, 1957: + 5.2, +0.06;
+10.5, +0.11.

I 658 19 49.5 -55 25

78.773	155.3	0.93	2	5	+0.2	1	0.6	36
78.776	160.2	0.93	2	4	+0.2	1	0.4	36
78.781	158.1	0.87	2	4	+0.5	1		36
78.777	157.9	0.91	3n		0.5			36-Inch

Heintz, 1973: -0.6, -0.09.

13005 BU 361 19 50.3 +22 40

84.623	347.8	3.70	2	8	0.0	3	0.3	26
84.713	349.0	3.75	2	6	+0.2	3	0.2	26
84.668	348.4	3.72	2n		0.2			26-Inch

COU 1034 19 50.4 +24 09

86.463	209.4	0.23	2	6	0.0	3	0.0	26
86.660	214.2	0.25	2	6	0.0	3		26
86.690	208.2	0.27	2	6	0.0	3		26
86.712	212.6	0.27	2	7	+0.1	3	0.0	26
86.631	211.1	0.26	4n		0.0			26-Inch

13024 HU 684 19 50.7 +48 51

80.676	152.9	0.31	2	6	-0.1	3	0.3	26
80.700	157.0	0.36	2	4	-0.1	3	0.0	26
80.720	150.4	0.28	2	7	-0.1	3	0.1	26
80.766	153.2	0.33	2	7	-0.1	3	0.2	26
80.716	153.4	0.32	4n		0.0			26-Inch

12994 OL 24 19 50.7 -26 10

84.776	38.9	1.12	2	5	+0.7	3	0.3	60
84.784	37.6	1.19	2	5	+0.9	3	0.6	60
84.790	37.5	1.09	2	8	+1.1	3	0.1	60
84.783	38.0	1.13	3n		0.3			60-Inch

13030 BU 978 19 51.5 +23 31

80.772	58.0	1.15	2	5	0.0	3	0.0	26
80.807	59.8	1.10	2	4	+0.1	3	0.0	26
80.810	57.8	1.09	2	4	+0.1	3	0.0	26
80.796	58.5	1.11	3n		0.0			26-Inch

13027 A 376 19 51.7 +07 38

77.763	129.5	2.21	2	6	0.0	3	0.5	26
78.551	128.3	2.10	2	7	-0.1	3	0.6	26
78.642	128.7	2.14	2	5	0.0	3	0.4	26
78.319	128.8	2.14	3n		0.5			26-Inch

13028 BU 148 19 52.0 -10 21

80.651	254.8	0.61	2	5	+0.1	3	0.4	26
80.654	254.8	0.60	2	7	0.0	3	0.4	26
80.657	255.1	0.53	2	5	+0.2	3	0.4	26
80.654	254.9	0.58	3n		0.4			26-Inch

Popovic, 1983: +8.7, +0.02.

13055 HO 580 19 52.5 +22 27

80.651	275.7	0.81	2	6	0.0	3	0.4	26
80.654	276.7	0.68	2	7	0.0	3	0.4	26
80.657	275.4	0.72	2	6	+0.2	3	0.3	26
80.654	275.4	0.72	3n		0.4			26-Inch

13059 A 1660 ABXC 19 52.9 +14 26

77.760	213.0	0.60	2	6	+0.1	3	0.2	26
77.763	209.0	0.56	1	6	+0.1	3	0.3	26
78.512	207.3	0.56	2	5	+0.1	3	0.2	26
78.529	208.8	0.59	2	6	+0.1	3	0.4	26
78.141	209.5	0.58	4n		0.3			26-Inch

The close pair AB was measured by Aitken on three nights in 1931. It has never been seen subsequently.

13074	J 25		19 53.4 +29 23				
80.654	180.7	1.72	2	7	+0.1	3	0.1 26
80.657	181.8	1.63	2	6	+0.3	3	0.0 26
80.676	181.4	1.64	2	7	0.0	3	0.0 26
80.662	181.3	1.66	3n		0.0		26-Inch

	DJU		19 53.4 +24 05				
78.680	248.6	1.10	2	6	0.0	3	2.2 26
78.721	252.0	1.08	2	6	0.0	3	2.2 26
79.715	252.8	1.28	2	5	+0.1	3	2.5 26
79.797	249.7	1.01	2	8	-0.6	3	2.0 26
79.228	250.8	1.12	4n		2.2		26-Inch

	I 1406		19 53.5 -30 17				
84.790	0.0	0.22	2	8	+1.0	3	0.3 60
84.793	2.0	0.21	2	7	+0.9	3	0.4 60
84.792	1.0	0.22	2n		0.4		60-Inch

No measures since 1960. A large increase in angle with distance decreasing.

13082	STF 2596		19 54.0 +15 18				
81.637	305.3	2.01	2	5	0.0	3	1.3 26
81.645	307.0	2.04	2	4	0.0	3	1.4 26
81.650	306.5	1.94	2	5	0.0	5	1.7 26
81.653	306.6	2.00	2	8	0.0	3	1.8 26
81.646	306.4	2.00	4n		1.6		26-Inch

13086	J 1291		19 54.3 +02 44				
84.719	338.6	3.10	2	5	+0.1	3	0.4 26
87.635	339.1	3.14	1	5	0.0	3	0.7 26
87.760	338.5	3.10	2	5	-0.1	3	1.0 26
86.705	338.7	3.11	3n		0.7		26-Inch

13125	HO 581		19 55.0 +41 52				
77.574	106.9	0.30	2	5	+0.1	4	0.6 26
77.631	107.1	0.29	2	5	+0.1	3	0.6 26
77.746	111.6	0.31	3	7	0.0	3	0.5 26
79.797	122.0	0.29	2	8	-0.3	4	0.5 26
79.800	127.6	0.28	2	6	-0.4	3	0.5 26
79.808	121.4	0.30	2	6	-0.3	3	0.5 26
81.656	144.8	0.23	2	5	+0.1	4	0.6 26
81.735	140.2	0.25	2	5	-0.1	4	0.7 26
81.785	136.6	0.24	2	5	-0.2	3	0.8 26
81.787	146.1	0.25	2	8	0.0	4	0.8 26
77.650	108.5	0.30	3n		0.6		26-Inch
79.802	123.7	0.29	3n		0.5		26-Inch
81.741	141.9	0.24	4n		0.7		26-Inch

Van Biesbroeck, 1927: +2.0, -0.04;
+1.6, -0.02;
+3.0, -0.04.

13104	STF 2597		19 55.4 -06 44				
79.797	323.5	0.13	3	7	-0.1	4	1.0 26
79.800	351.9	0.15	1	6	-0.1	5	1.0 26
79.808	342.0	0.15	1	6	-0.1	3	0.8 26
79.802	340:	0.14:	3n		0.9		26-Inch

Obviously very difficult and uncertain.

	RST 2123		19 56.2 -31 00				
84.776	196.3	1.61	2	5	+0.7	3	0.4 26
84.784	194.2	1.65	2	5	+0.9	3	0.2 26
84.790	195.5	1.56	2	7	+0.8	3	0.0 26
84.783	195.3	1.61	3n		0.2		60-Inch

13156	A 604		19 57.3 +05 13				
78.551	79.6	0.14	2	7	0.0	3	0.0 26
78.642	87.7	0.21	2	5	0.0	3	0.0 26
78.644	76.5	0.17	2	6	0.0	3	0.0 26
78.680	85.0	0.20	2	5	+0.1	3	0.0 26
85.559	72.2	0.21	2	6	0.0	3	26
85.589	85.8	0.19	2	5	0.0	3	26
85.644	80.9	0.20	2	6	+0.1	3	26
78.629	82.2	0.18	4n		0.0		26-Inch
85.597	79.6	0.20	3n				26-Inch

Zaera, 1982: +4.0, -0.03; +8.5, +0.02.

13165	BU 425		19 57.5 +20 18				
81.637	240.7	1.29	2	4	0.0	3	26
81.653	240.0	1.40	2	7	0.0	3	0.0 26
81.735	244.4	1.31	2	5	0.0	4	26
81.785	242.4	1.48	2	5	-0.1	3	0.3 26
81.702	241.9	1.37	4n		0.2		26-Inch

13161	A 1662		19 57.5 +14 08				
84.648	195.1	0.31	2	5	+0.2	3	0.0 26
84.713	198.4	0.26	2	6	+0.1	3	0.0 26
84.716	196.2	0.28	2	5	+0.2	3	0.0 26
87.635	196.4	0.31	2	5	0.0	3	26
87.760	197.1	0.23	2	5	0.0	3	26
87.788	197.5	0.24	2	5	-0.1	3	26
87.804	195.5	0.34	2	5	0.0	3	26
87.807	195.0	0.36	2	7	0.0	3	0.3 26
84.692	196.6	0.28	3n		0.0		26-Inch
87.759	196.3	0.30	5n		0.3		26-Inch

13166	A 1663		19 57.6 +15 24				
87.788	237.9	1.30	2	5	0.0	3	0.2 26
87.804	236.3	1.21	2	5	-0.1	3	0.3 26
87.807	236.5	1.23	2	8	-0.1	3	0.2 26
87.818	241.1	1.41	2	5	+0.1	3	0.4 26
87.804	238.0	1.29	4n		0.3		26-Inch

13183 ROE 19 57.9 +35 55

81.785	44.3	1.50	2	5	+0.1	3	1.0	26	
81.787	42.3	1.49	2	7	+0.1	3	1.0	26	
81.790	43.7	1.56	2	5	-0.1	4	1.2	26	
81.787	43.4	1.56	3n		1.1		26-Inch		

This is the only measure since discovery.

13176 AC 16 19 57.9 +27 15

81.637	236.0	0.40	2	5	0.0	3	0.3	26	
81.735	237.2	0.36	2	5	0.0	4	0.4	26	
81.785	235.8	0.36	2	5	0.0	3	0.4	26	
81.787	235.8	0.43	2	7	0.0	4	0.3	26	
81.736	236.2	0.39	4n		0.4		26-Inch		

13169 A 606 19 58.1 +04 56

78.551	304.4	0.42	2	8	+0.1	3	0.2	26	
78.642	306.2	0.41	2	5	+0.1	3	0.0	26	
78.644	306.5	0.40	2	6	+0.1	3	0.0	26	
86.767	312.9	0.53	2	7	0.0	3	0.0	26	
86.802	315.3	0.59	2	6	0.0	3	0.2	26	
86.808	315.1	0.52	2	8	-0.1	3	0.0	26	
86.824	321.4	0.49	2	5	+0.1	3		26	
78.612	305.7	0.41	3n		0.1		26-Inch		
86.800	316.2	0.53	4n		0.1		26-Inch		

Zaera, 1982: -0.6, -0.05; +1.1, +0.05.
Baize, 1984: -0.1, -0.06; +0.7, +0.08.

13184 AG 244 19 58.3 +22 08

81.790	276.8	1.42	2	5	0.0	4	1.2	26	
81.804	276.1	1.52	2	5	-0.2	3	1.3	26	
81.807	275.9	1.42	2	6	-0.1	4	1.3	26	
81.800	276.3	1.45	3n		1.3		26-Inch		

13178 AC 12 19 58.4 -02 14

79.797	305.6	1.47	2	8	-0.1	4	0.5	26	
79.800	305.6	1.38	2	6	-0.1	5	0.8	26	
79.808	304.7	1.48	2	6	0.0	3	0.7	26	
87.788	302.7	1.39	2	5	0.0	3	0.6	26	
87.804	301.1	1.30	2	5	0.0	3	0.8	26	
87.807	302.4	1.37	2	7	0.0	3	0.7	26	
87.818	303.6	1.35	2	5	0.0	3	1.0	26	
79.802	305.3	1.44	3n		0.7		26-Inch		
87.804	302.4	1.35	4n		0.8		26-Inch		

13196 STF 2606 19 58.6 +33 16

80.659	141.3	0.94	2	7	0.0	3	0.4	26	
80.676	140.9	0.89	2	7	0.0	3	0.8	26	
80.700	141.6	1.00	2	4	0.0	3	0.7	26	
80.678	141.3	0.94	3n		0.6		26-Inch		

13212 A 378 19 59.3 +32 06

81.804	298.0	0.81	2	5	-0.1	3	0.5	26	
81.807	298.7	0.88	2	6	0.0	3	0.6	26	
81.826	297.1	0.84	2	7	+0.1	3	0.4	26	
81.812	297.9	0.84	3n		0.5		26-Inch		

13242 STF 2623 19 59.6 +59 28

80.720	103.2	1.61	2	5	0.0	3	1.4	26	
80.769	101.1	1.69	2	6	-0.1	3	1.2	26	
80.772	106.1	1.52	2	5	0.0	3	1.8	26	
80.810	104.7	1.53	2	5	+0.1	3	1.8	26	
80.768	103.8	1.59	4n		1.6		26-Inch		

13223 BU 1133 19 59.6 +31 49

81.804	347.4	1.23	2	5	0.0	3	2.7	26	
81.807	346.7	1.15	2	6	0.0	4	2.8	26	
81.826	343.3	1.12	2	7	+0.2	3	1.6	26	
81.812	345.8	1.17	3n		2.4		26-Inch		

COU 1166 19 59.8 +28 30

86.463	180.2	0.75	2	6	0.0	3	0.0	26	
86.709	183.2	0.65	2	7	0.0	3	0.2	26	
86.712	180.2	0.74	2	7	0.0	3	0.2	26	
86.802	179.1	0.79	2	6	0.0	3	0.2	26	
86.672	180.7	0.73	4n		0.2		26-Inch		

13220 A 2393 20 00.1 +03 38

79.797	91.3	0.11	2	7	0.0	4	0.8	26	
80.654	64:	0.13	2	7	0.0	3		26	

These are the only observations since a single measure by Van Biesbroeck showed the pair closed in. Uncertain and quadrant indeterminate.

13234 HU 352 20 00.3 +17 56

79.797	238.3	0.14	2	7	0.0	4	0.0	26	
79.800	202.4	0.18	2	5	0.0	4		26	
80.654	218.7	0.16	2	7	+0.1	3		26	
80.676	224.9	0.15	2	7	+0.2	4		26	
80.232	221:	0.16	4n				26-Inch		

Difficult.

13239 A 1664 20 00.5 +13 17

78.721	76.1	0.56	2	6	0.0	3	0.3	26	
78.737	73.4	0.59	2	5	0.0	3	0.5	26	
79.718	73.9	0.49	2	7	0.0	3	0.5	26	
79.059	74.5	0.55	3n		0.4		26-Inch		

	RST 1054		20 00.8 -46 35			
84.773	339.4	0.27	2 6 +0.7 3			60
84.782	342.2	0.30	2 6 +0.7 3	0.2		60
84.787	346.9	0.32	2 7 +0.7 3	0.5		60
84.781	342.8	0.30	3n	0.4		60-Inch

13262	BU 1289		20 01.0 +37 42			
81.804	46.1	0.60	2 4 +0.1 3	0.8		26
81.807	52.6	0.72	2 6 +0.1 4	0.9		26
81.826	51.4	0.63	2 7 +0.2 3	0.8		26
81.812	50.0	0.65	3n	0.8		26-Inch

13270	A 720		20 01.2 +48 21			
80.720	93.6	0.54	2 5 +0.1 3	0.1		26
80.766	91.9	0.52	2 6 0.0 3	0.0		26
80.810	86.8	0.47	2 5 +0.2 3	0.2		26
80.765	90.8	0.51	3n	0.1		26-Inch

	HDO 294		20 01.2 -38 36			
78.770	19.3	1.02	2 6 +0.2 1	0.8		36
78.773	18.6	0.94	1 6 0.0 1	1.0		36
78.781	22.1	0.97	2 4 +0.4 1	0.6		36
84.776	20.9	1.10	2 5 +0.8 3	0.7		60
84.784	22.7	1.08	2 5 +0.9 3	0.8		60
84.790	21.2	0.97	2 8 +1.1 3	0.4		60
78.775	20.0	0.98	3n	0.8		36-Inch
84.783	21.6	1.05	3n	0.6		60-Inch

Dommanget, 1978: -3.3, +0.04; -4.5, +0.04.

13259	H 93		20 01.6 -00 12			
82.825	296.8	1.90	2 6 0.0 3	0.8		26
85.559	300.0	1.87	2 6 0.0 3	0.4		26
85.589	298.9	1.87	2 5 0.0 3	1.2		26
84.658	298.6	1.88	3n	0.8		26-Inch

13277	STT 395		20 02.0 +24 56			
79.800	120.2	0.91	2 7 -0.3 3	0.4		26
79.808	119.7	0.81	2 7 -0.1 3	0.3		26
79.827	118.4	1.02	2 5 +0.4 3	0.5		26
79.830	119.8	0.95	2 5 -0.3 3	0.4		26
86.463	119.4	0.94	2 6 +0.1 3	0.2		26
86.660	120.8	0.93	2 6 0.0 3	0.5		26
86.690	121.2	0.88	2 5 0.0 3			26
86.709	119.0	0.92	2 6 0.0 3	0.4		26
79.816	119.5	0.92	4n	0.4		26-Inch
86.630	120.1	0.92	4n	0.4		26-Inch

	I 1490		20 03.3 -42 55			
84.795	154.6	0.84	2 6 +0.4 3	0.8		36
84.798	153.0	0.80	2 6 +0.5 4	1.2		36
84.801	149.5	0.84	2 7 +0.4 4	0.8		36
84.798	152.4	0.83	3n	0.9		36-Inch

Increase in both angle and separation.

13313	A 380		20 03.6 +32 20			
85.589	203.2	0.65	1 6 +0.1 3			26
86.660	203.0	0.60	2 6 0.0 3	0.1		26
86.690	203.1	0.61	2 5 0.0 3			26
86.313	203.1	0.62	3n	0.1		26-Inch

Decrease in separation. Angle unchanged.

13314	A 1194		20 04.0 +12 21			
87.760	316.8	0.95	2 5 0.0 3	0.2		26
87.788	315.5	0.86	2 5 0.0 3	0.1		26
87.804	318.6	0.83	2 5 0.0 3			26
87.807	313.6	0.99	1 7 0.0 3	0.1		26
87.790	316.1	0.91	4n	0.1		26-Inch

13320	STF 2620		20 04.1 +11 48			
82.825	288.3	1.70	2 6 +0.1 3	0.6		26
85.589	289.7	1.82	2 6 +0.1 3	0.6		26
85.644	289.8	1.97	2 6 0.0 3	0.8		26
84.686	289.3	1.83	3n	0.7		26-Inch

13329	STF 2626		20 04.2 +30 33			
79.808	127.6	1.03	2 5 0.0 3	0.1		26
79.833	128.6	1.09	2 8 0.0 3	0.2		26
79.846	125.1	1.09	2 8 +0.2 3	0.2		26
79.852	128.2	1.14	2 5 +0.3 3	0.1		26
79.835	127.4	1.09	4n	0.2		26-Inch

13337	A 608		20 05.1 +05 46			
76.689	12.3	1.40	1 5 +0.1 3	2.5		26
78.680	15.8	1.58	1 5 +0.3 3	2.4		26
78.721	15.8	1.39	1 6 +0.1 3	3.4		26
78.030	14.6	1.46	3n	2.4		26-Inch

13334	BU 56		20 05.1 -04 19			
78.792	179.8	1.40	1 5 +0.7 1	1.0		60
78.800	179.8	1.51	1 5 +0.1 1	1.5		60
78.796	179.8	1.46	2n	1.2		60-Inch

13392 STF 2642 20 05.5 +63 42

76.788	183.1	1.88	1	5	0.0	3	0.2	26
77.574	183.9	1.99	1	5	0.0	4	0.0	26
77.631	183.5	2.00	1	5	0.0	3	0.1	26
77.331	183.5	1.96	3n		0.1		26-Inch	

13355 HLD 156 20 06.2 +01 59

77.760	256.2	1.29	2	6	0.0	3	0.3	26
77.763	257.4	1.30	2	6	0.0	3	0.7	26
78.512	256.6	1.21	2	5	0.0	3	0.4	26
78.012	256.7	1.27	3n		0.4		26-Inch	

13384 BU 428 20 06.7 +12 56

79.808	356.1	0.91	1	6	0.0	3	1.0	26
79.830	356.5	0.87	1	6	-0.2	3	1.2	26
79.833	355.6	0.81	1	8	-0.2	3	1.4	26
79.824	356.1	0.86	3n		1.2		26-Inch	

13357 SEE 405 20 06.7 -28 22

78.770	237.7	0.51	2	6	0.0	1	0.5	36
78.773	236.2	0.37	2	6	+0.1	1	0.7	36
78.776	238.5	0.40	2	4	+0.3	1	0.2	36
78.773	237.5	0.43	3n		0.5		36-Inch	

13389 A 609 20 07.1 +07 59

78.644	308.9	0.36	2	6	0.0	3	0.2	26
78.721	308.8	0.37	2	6	+0.2	3	0.3	26
78.737	307.8	0.43	2	5	0.0	3	0.2	26
78.701	308.5	0.39	3n		0.2		26-Inch	

13405 STT 398 20 07.4 +35 43

81.637	85.8	1.13	2	5	0.0	3	1.5	26
81.735	84.3	1.03	2	4	-0.1	4	1.8	26
81.785	83.4	1.03	2	5	0.0	3	1.4	26
81.790	83.7	1.02	2	5	-0.1	4	1.8	26
81.737	84.3	1.05	4n		1.6		26-Inch	

13415 A 382 20 08.0 +42 23

86.788	98.9	1.57	2	6	-0.3	3	2.2	26
86.802	97.6	1.68	2	6	0.0	3	2.4	26
86.808	96.7	1.69	2	7	-0.2	3	2.7	26
86.824	98.4	1.59	2	5	0.0	3	3.0	26
86.806	97.9	1.63	4n		2.6		26-Inch	

RST 2135 20 08.0 -31 11

78.784	180.1	0.82	2	7	+0.5	1	1.2	36
78.789	179.5	0.96	2	7	+0.8	1	0.8	36
78.786	179.8	0.89	2n		1.0		36-Inch	

RST 2134 20 08.1 -39 30

84.782	328.8	0.12	2	7	+0.7	3	0.0	60
84.787	323.6	0.12	2	7	+0.7	3	0.0	60
84.790	310.6	0.11	2	8	+1.1	3	0.0	60
84.793	317.8	0.13	2	8	+0.7	3	0.0	60
84.788	320.2	0.12	4n		0.0		60-Inch	

No measures since 1947. If the quadrant is correct, half the orbit has been covered.

13412 J 1168 20 08.2 +21 05

77.760	195.4	0.75	2	6	0.0	3	0.6	26
77.763	194.7	0.75	2	6	0.0	3	0.6	26
78.551	191.6	0.85	1	8	0.0	3	0.6	26
78.025	193.9	0.78	3n		0.6		26-Inch	

13404 I 1413 20 08.4 -27 01

78.770	88.7	3.57	2	6	+0.1	1	2.8	36
78.773	90.7	3.79	2	6	+0.2	1	3.5	36
78.776	92.1	3.70	2	5	+0.4	1	3.5	36
78.773	90.5	3.69	3n		3.2		36-Inch	

13449 STF 2652 20 09.0 +62 05

81.637	221.4	0.33	2	5	+0.1	3		26
81.653	220.1	0.30	2	6	0.0	3	0.3	26
81.735	221.9	0.27	2	4	0.0	4		26
81.785	220.6	0.31	2	4	+0.1	3		26
81.702	221.0	0.30	4n		0.3		26-Inch	

HU 1611 20 09.2 -62 10

78.770	294.3	1.57	2	4	+0.3	1	1.3	36
78.773	296.4	1.50	2	6	+0.3	1	2.5	36
78.776	295.8	1.52	2	4	0.0	1	2.8	36
78.773	295.5	1.53	3n		2.2		36-Inch	

13433 BAR 20 09.3 +25 03

77.760	299.1	0.80	2	5	+0.1	3	0.4	26
77.763	299.5	0.97	2	6	+0.1	3	0.4	26
78.512	298.2	0.95	2	5	+0.1	3	0.1	26
78.012	298.9	0.91	3n		0.3		26-Inch	

VOU 81 20 09.3 -31 54

84.776	128.6	3.62	2	5	+0.8	3	2.4	60
84.784	126.7	3.64	2	5	+0.9	3	2.5	60
84.780	127.6	3.63	2n		2.4		60-Inch	

This is the only measure since discovery in 1934. Increase in angle.

13447 STF 2645 20 09.4 +51 41

81.637	138.8	1.90	2	5	0.0	3	0.8	26
81.653	139.5	1.58	2	6	-0.1	3	0.2	26
81.656	140.7	1.63	2	5	-0.1	4	0.5	26
81.735	137.7	1.63	2	4	+0.1	4	0.4	26
81.670	139.2	1.68	4n		0.5		26-Inch	

13461 STT 400 20 10.2 +43 57

77.574	107.1	0.20	2	5	0.0	4	0.4	26
77.631	108.6	0.22	1	6	0.0	3	0.6	26
77.746	106.8	0.20	2	6	0.0	3	0.5	26
79.718	88.5	0.18	2	6	0.0	3	0.8	26
79.797	90.3	0.19	3	8	0.0	4	0.8	26
79.800	84.2	0.19	1	6	0.0	4	0.8	26
79.808	91.0	0.22	3	5	0.0	3	0.6	26
80.676	80.6	0.19	3	7	0.0	4	1.0	26
80.720	79.2	0.19	2	6	0.0	3	1.0	26
80.766	71.3	0.20	2	6	-0.1	3	1.0	26
81.653	62.7	0.22	2	6	+0.1	3	0.8	26
81.785	61.1	0.20	2	5	0.0	3	0.8	26
81.787	61.2	0.18	2	8	0.0	4	1.0	26
81.807	63.9	0.20	2	6	0.0	4	0.8	26
84.623	34.7	0.26	2	6	-0.1	3		26
84.648	27.6	0.27	2	6	+0.1	3	1.0	26
86.712	21.9	0.21	2	6	0.0	3	1.2	26
86.767	17.5	0.24	2	8	0.0	3	0.8	26
86.788	24.2	0.22	4	6	-0.4	3	1.0	26
86.802	19.5	0.25	2	7	0.0	3	0.8	26

77.650	107.5	0.21	3n	0.5	26-Inch
79.781	88.5	0.19	4n	0.8	26-Inch
80.721	77.0	0.19	3n	1.0	26-Inch
81.758	62.2	0.20	4n	0.9	26-Inch
84.636	31.2	0.26	2n	1.0	26-Inch
86.767	20.8	0.23	4n	1.0	26-Inch

Heintz, 1985: -0.4, 0.00; -1.9, 0.00;
-4.5, 0.00; -9.0, +0.02;
-12.5, +0.06, -3.0, 0.00.
This orbit is no improvement over Heintz's 1963 version.

13448 FOX 33 20 10.2 +25 36

82.825	105.9	1.05	2	5	+0.1	3	1.2	26
85.644	100.4	1.06	2	6	0.0	3	1.7	26
86.463	100.4	0.98	2	5	0.0	3	1.2	26
84.977	102.2	1.03	3n		1.4		26-Inch	

COU 1629 20 10.4 +33 56

87.760	156.1	1.52	2	5	0.0	3	0.4	26
87.788	155.9	1.37	2	5	0.0	3	0.6	26
87.804	156.6	1.52	2	4	0.0	3	1.0	26
87.818	153.1	1.52	2	5	0.0	3	0.7	26
87.792	155.4	1.48	4n		0.7		26-Inch	

HDO 295 20 11.1 -57 31

78.770	266.9	0.59	2	5	+0.2	1	0.7	36
78.773	266.4	0.47	2	6	+0.4	1	0.6	36
78.776	264.6	0.39	2	4	+0.1	1	0.7	36
78.784	265.5	0.51	2	7	+0.1	1	0.8	36
78.776	265.8	0.49	4n		0.7		26-Inch	

13493 BU 1205 20 12.3 -08 05

78.792	224.5	0.24	2	5	+0.7	1	1.3	60
78.800	221.6	0.20	2	4	+0.9	1	0.8	60
78.803	228.8	0.21	2	5	+0.9	1	1.4	60
78.798	225.0	0.22	3n		1.2		60-Inch	

13517 A 1201 20 12.4 +29 08

78.721	167.3	0.32	2	5	+0.2	3	0.4	26
79.718	158.4	0.26	2	7	0.0	3	0.4	26
79.747	155.9	0.30	2	8	0.0	4	0.8	26
79.412	160.5	0.29	3n		0.5		26-Inch	

13519 A 722 20 12.8 +12 10

82.825	342.5	2.61	2	5	+0.1	3	0.3	26
85.559	343.0	2.53	2	6	0.0	3	0.0	26
85.589	343.7	2.62	2	6	0.0	3	0.4	26
84.658	343.1	2.59	3n		0.2		26-Inch	

13530 A 1203 BC 20 12.9 +29 12

78.551	2.4	0.41	2	7	+0.1	3	0.2	26
78.644	4.3	0.49	2	6	+0.1	3	0.8	26
79.833	4.2	0.41	1	7	0.0	3	0.5	26
79.001	3.6	0.44	3n		0.5		26-Inch	

13533 A 1202 20 13.4 +10 47

78.737	120.6	0.75	2	4	0.0	2	0.2	26
79.718	118.2	0.70	2	5	+0.1	3	0.4	26
79.747	120.7	0.78	2	8	+0.2	4	0.4	26
79.417	119.8	0.74	3n		0.3		26-Inch	

HJ 5178 20 13.7 -34 07

84.795	8.4	2.77	2	7	+0.8	4	1.5	36
84.798	7.4	2.74	2	7	+0.4	4	1.5	36
84.801	9.5	2.79	2	7	+0.5	4	1.2	36
84.798	8.4	2.77	3n		1.4		36-Inch	

13542 STF 2651 20 13.8 +16 09

80.657	279.6	1.25	2	6	+0.1	3	0.1	26
80.659	280.7	1.32	2	8	0.0	3	0.1	26
80.676	279.4	1.29	2	7	0.0	4	0.0	26
80.664	279.9	1.29	3n		0.1		26-Inch	

POP 138 20 13.9 +45 39

86.788	34.6	0.52	2	6	-0.2	3	0.2	26	
86.802	39.5	0.54	2	6	+0.1	3	0.2	26	
86.808	33.4	0.51	2	7	-0.1	3	0.0	26	
86.799	35.8	0.52	3n	0.1				26-Inch	

13564 A 1204 20 14.4 +31 29

84.719	137.1	0.31	2	5	0.0	3		26	
84.724	133.3	0.30	2	6	+0.1	3	0.4	26	
85.559	135.6	0.36	2	6	-0.1	3	0.3	26	
85.000	135.3	0.32	3n	0.3				26-Inch	

13614 BU 59 20 16.6 +05 07

87.788	105.1	8.35	2	5	0.0	3	2.0	26	
87.804	104.4	8.42	2	5	0.0	3	1.8	26	
87.807	103.0	8.52	2	7	0.0	3	2.0	26	
87.800	104.2	8.43	3n	1.9				26-Inch	

13637 A 284 20 16.9 +32 35

80.810	256.4	0.42	2	5	0.0	3	0.3	26	
81.787	254.1	0.45	2	8	0.0	4	0.4	26	
81.807	258.1	0.49	2	6	0.0	4	0.3	26	
81.468	256.2	0.45	3n	0.3				26-Inch	

STN 64 20 16.9 -32 37

78.776	302.2	1.88	2	5	+0.4	1	0.2	36	
78.781	300.7	2.00	2	5	+0.4	1	0.1	36	
78.789	301.4	1.99	2	6	+0.7	1	0.2	36	
78.782	301.4	1.96	3n	0.2				36-Inch	

13649 BU 984 20 17.6 +26 23

79.800	247.1	0.60	2	5	0.0	4	0.5	26	
79.808	250.2	0.52	2	5	0.0	3	0.4	26	
79.827	248.9	0.57	2	5	0.0	3	0.6	26	
79.833	247.2	0.56	2	8	0.0	3	0.3	26	
84.713	251.2	0.54	2	6	+0.2	3	0.3	26	
84.719	254.8	0.48	2	5	+0.1	3	0.4	26	
84.724	250.2	0.52	2	5	-0.2	3	0.2	26	
79.817	248.4	0.56	4n	0.4				26-Inch	
84.719	252.1	0.51	3n	0.3				26-Inch	

13665 A 1205 20 18.2 +29 13

85.644	99.8	1.00	2	5	0.0	3	0.6	26	
86.463	103.0	0.78	2	5	0.0	3	0.4	26	
86.660	100.0	0.84	2	6	0.0	3	0.6	26	
86.690	99.2	0.92	2	5	-0.1	3	0.7	26	
86.364	100.5	0.88	4n	0.6				26-Inch	

Heintz, 1978: +1.2, +0.21.

13657 A 1670 20 18.2 +15 12

80.659	214.5	0.27	2	8	0.0	3	0.4	26	
80.676	210.9	0.29	2	7	0.0	4	0.8	26	
80.720	208.6	0.31	2	6	-0.1	3	0.3	26	
80.685	211.3	0.29	3n	0.5				26-Inch	

13681 A 286 AB 20 18.7 +35 07

80.720	47.9	0.20	2	5	0.0	3	0.0	26	
81.787	48.9	0.16	2	7	0.0	4	0.0	26	
81.807	55.5	0.18	2	6	-0.1	4	0.0	26	
81.826	49.2	0.18	2	7	0.0	4		26	
81.535	50.4	0.18	4n	0.0				26-Inch	

BU 986 ABXC

80.720	240.8	4.28	2	5	+0.1	3	1.5	26	
81.787	240.3	4.36	2	7	+0.1	4	2.0	26	
81.807	240.9	4.48	2	6	0.0	4	2.4	26	
81.826	240.6	4.55	2	7	+0.1	4	2.5	26	
81.535	240.6	4.42	4n	2.1				26-Inch	

13679 A 285 20 18.8 +21 42

86.808	300.7	3.29	2	7	-0.1	3	3.0	26	
86.824	301.4	3.22	2	5	0.0	3	2.7	26	
86.830	303.0	3.18	2	7	0.0	3	3.0	26	
86.821	301.7	3.23	3n	2.9				26-Inch	

13693 BU 1206 20 19.2 +36 45

76.728	356.6	2.27	2	6	0.0	3	3.5	26	
77.631	358.3	2.17	2	5	0.0	3	3.5	26	
77.746	357.3	2.15	2	7	-0.1	3	3.0	26	
77.368	357.4	2.20	3n	3.3				26-Inch	

13701 J 837 20 19.8 +12 03

76.703	295.4	1.90	2	6	0.0	3	0.7	26	
76.728	298.5	2.00	2	7	+0.1	3	0.6	26	
77.760	296.2	2.19	2	5	0.0	3	0.8	26	
77.064	296.7	2.03	3n	0.7				26-Inch	

13723 STT 406 20 19.9 +45 22

76.788	119.5	0.58	2	5	-0.2	3	0.8	26	
77.574	120.8	0.61	2	4	-0.1	4	0.7	26	
77.631	119.4	0.47	2	5	0.0	3	0.5	26	
77.746	120.4	0.55	2	6	0.0	3	0.7	26	
86.463	115.8	0.56	2	4	+0.1	3	0.6	26	
86.660	116.1	0.55	2	5	-0.1	3	0.5	26	
86.690	115.8	0.53	2	5	0.0	3	0.6	26	
86.709	116.1	0.49	2	6	-0.1	3	0.5	26	
77.435	120.0	0.55	4n	0.7				26-Inch	
86.630	116.0	0.53	4n	0.6				26-Inch	

Heintz, 1976: +2.1, -0.03; +1.3, -0.04.

13728 A 1427 20 20.2 +39 24

79.846	107.4	0.30	1	7	0.0	3	1.2	26
79.852	109.4	0.30	3	6	+0.1	3	1.4	26
79.871	102.7	0.38	2	5	+0.2	3	1.4	26
79.876	106.5	0.34	3	6	+0.2	3	1.6	26
79.861	106.5	0.33	4n		1.4			26-Inch

Docobo, Costa, 1987: +0.6, 0.00.
Starikova, 1983: -4.1, +0.07.
Muller, 1954: +5.6, +0.05.

13725 HU 360 20 20.5 +16 34

77.763	152.6	0.20	2	6	0.0	3	0.0	26
79.718	158.6	0.19	2	6	0.0	3	0.0	26
79.797	153.0	0.15	2	7	+0.1	4		26
79.833	158.5	0.18	3	7	0.0	3		26
79.278	155.7	0.18	4n		0.0			26-Inch

RST 3255 20 20.5 -27 49

84.787	263.6	0.14	2	7	+0.6	3		60
84.790	256.2	0.15	2	8	+1.0	3	0.0	60
84.793	249.4	0.14	2	7	+0.7	3	0.0	60
84.790	256.4	0.14	3n		0.0			60-Inch

Heintz, 1984: -6.1, -0.07.

13738 HLD 158 20 21.3 +02 51

80.654	64.5	0.52	2	7	0.0	3	0.3	26
80.657	65.3	0.58	2	6	+0.1	3	0.2	26
80.676	65.3	0.63	2	7	0.0	4	0.3	26
80.662	65.0	0.58	3n		0.3			26-Inch

Baize, 1976: +1.1, -0.01.

13750 STF 2672 20 21.6 +23 46

84.724	333.7	0.76	2	5	-0.1	3	0.2	26
85.559	332.4	0.68	2	7	-0.1	3	0.3	26
85.589	332.4	0.61	2	6	0.0	3	0.3	26
85.291	332.8	0.68	3n		0.3			26-Inch

JSP 812 20 22.0 -32 24

84.790	264.2	0.18	2	8	+1.1	3	0.6	60
84.793	267.7	0.20	2	6	+0.8	3	0.8	60
84.792	266.0	0.19	2n		0.7			60-Inch

OL 25 20 22.3 -36 31

78.770	263.7	1.70	2	5	+0.4	1	0.8	36
78.773	261.1	1.66	2	6	+0.4	1	0.5	36
78.776	264.7	1.60	2	5	+0.4	1	0.6	36
78.773	263.2	1.65	3n		0.6			36-Inch

13772 ES 2190 20 22.7 +36 51

79.800	188.0	1.46	2	5	0.0	4	0.1	26
81.735	188.8	1.48	2	5	0.0	4	0.2	26
81.807	189.3	1.57	2	6	0.0	4	0.2	26
81.114	188.7	1.50	3n		0.0			26-Inch

13781 WHC 19 20 23.4 +05 35

82.825	358.5	2.05	1	5	0.0	3	0.0	26
84.713	355.6	2.06	1	6	+0.1	3	0.2	26
84.716	356.0	2.24	1	7	0.0	3	0.2	26
84.085	356.7	2.12	3n		0.1			26-Inch

BU 763 20 23.9 -42 26

78.776	255.7	0.45	2	4	+0.6	1	0.9	36
78.781	250.9	0.51	2	5	+0.2	1	0.7	36
78.784	248.9	0.64	2	7	+0.3	1	0.8	36
84.795	253.2	0.47	2	7	+0.7	4	0.8	36
84.798	257.9	0.49	2	7	+0.3	4	0.6	36
84.801	254.9	0.43	2	7	+0.4	4	0.7	36
78.780	251.8	0.53	3n		0.8			36-Inch
84.798	255.3	0.46	3n		0.7			36-Inch

13818 HO 457 20 24.3 +29 22

86.824	61.5	2.00	2	5	0.0	3	0.0	26
86.830	61.1	1.95	2	7	0.0	3	0.0	26
86.849	60.6	1.97	2	8	0.0	3	0.0	26
86.834	61.1	1.97	3n		0.0			26-Inch

13804 HU 1198 20 24.4 +13 00

80.659	27.5	0.59	2	8	0.0	3	0.6	26
80.720	30.1	0.64	2	5	+0.1	3	0.8	26
80.766	25.8	0.52	2	6	-0.2	3	0.7	26
80.715	27.8	0.58	3n		0.7			26-Inch

13809 WOR 33 AP 20 24.4 +12 12

77.763	140.9	0.37	3	5	0.0	3	0.6	26
78.529	145.4	0.31	2	6	0.0	3	0.6	26
78.551	142.0	0.35	2	7	0.0	3	0.5	26
78.642	143.9	0.34	1	5	-0.1	3	0.6	26
86.788	133.1	0.40	2	5	-0.2	3	0.7	26
86.802	138.6	0.44	2	6	0.0	3	0.8	26
86.808	141.8	0.44	2	7	-0.1	3	0.8	26
86.830	141.8	0.55	2	7	0.0	3	0.8	26
78.371	143.0	0.34	4n		0.6			26-Inch
86.807	138.8	0.46	4n		0.8			26-Inch

Perhaps some increase in separation.

13830	BU 432			20 24.8	+35 46					
80.772	198.4	1.47	2	4	0.0	3	1.4	26		
80.807	199.2	1.52	2	4	-0.3	3	1.0	26		
80.810	200.5	1.47	2	5	-0.1	3	1.0	26		
80.851	198.9	1.48	2	5	+0.1	3	0.8	26		
80.810	199.2	1.48	4n		1.0			26-Inch		
13847	D 22			20 25.5	+40 06					
80.810	159.4	2.84	2	4	0.0	3	1.3	26		
80.832	157.3	2.83	2	4	0.0	3	1.3	26		
80.851	159.1	2.84	2	5	+0.1	3	1.2	26		
80.831	158.6	2.84	3n		1.3			26-Inch		
13846	A 47			20 25.5	+35 54					
80.810	178.9	1.67	2	4	0.0	3	0.6	26		
80.832	178.5	1.55	2	4	-0.1	3	0.8	26		
81.653	179.1	1.60	2	7	0.0	3	0.4	26		
81.653	178.8	1.61	3n		0.6			26-Inch		
13840	A 392			20 25.6	+25 04					
79.808	297.0	0.89	2	5	0.0	3	1.6	26		
79.827	296.6	1.00	2	5	0.0	3	1.2	26		
79.833	301.9	0.97	2	6	0.0	4	1.6	26		
79.823	298.5	0.95	3n		1.5			26-Inch		
	STF 2682			20 25.7	+25 21					
87.823	297.4	21.55	2	4	0.0	3	0.8	26		
87.865	297.5	21.48	2	5	+0.2	3	1.0	26		
87.844	297.4	21.52	2n		0.9			26-Inch		
13841	A 728			20 26.0	-00 40					
81.842	344.8	0.34	2	7	0.0	4	0.4	26		
86.767	343.6	0.31	1	7	-0.2	3		26		
86.788	342.8	0.34	1	5	-0.1	3		26		
86.802	340.0	0.38	1	5	0.0	3		26		
85.550	342.8	0.34	4n					26-Inch		
	RST 4665			20 26.2	-11 15					
78.792	349.1	0.55	2	4	+0.6	1	0.0	60		
78.803	348.6	0.51	1	5	+0.8	1	0.0	60		
78.808	349.0	0.46	2	6	+1.0	1		60		
78.801	348.9	0.51	3n		0.0			60-Inch		

Considerable angular decrease.

	I 1420			20 26.8	-43 33					
78.806	169.3	0.20	2	7	+0.6	1	0.1	60		
78.808	168.3	0.20	2	7	+0.7	1	0.2	60		
78.807	168.8	0.20	2n		0.2			60-Inch		

Half the orbit has been described.

	R 321			20 26.9	-37 24					
78.773	153.8	1.08	2	7	+0.5	2	1.4	36		
78.781	148.7	1.23	2	5	+0.4	1	1.2	36		
78.784	149.4	1.29	2	7	+0.7	1	1.5	36		
84.773	142.8	1.32	2	7	+0.4	3	1.4	60		
84.776	144.5	1.22	2	5	+0.5	3	1.4	60		
84.784	142.7	1.22	2	5	+0.7	3	1.2	60		
78.779	150.6	1.20	3n		1.4			36-Inch		
84.778	143.3	1.25	3n		1.3			60-Inch		

Dommanget, 1979: -0.9, 0.00; -4.0, -0.09.

13866	J 559			20 27.1	+09 48					
87.788	273.7	1.72	2	5	0.0	3	0.2	26		
87.804	271.0	1.73	2	5	0.0	3		26		
87.807	270.5	1.90	2	7	0.0	3	0.2	26		
87.800	271.7	1.78	3n		0.2			26-Inch		
13872	A 1674 AXBC			20 27.6	+14 54					
74.729	291.8	8.30	2	4	0.0	3	2.0	26		
81.326	291.6	8.62	2	6	+0.1	4	1.0	26		
78.278	291.7	8.46	2n		1.5			26-Inch		
	BC									
75.846	11.7	0.73	1	7	+0.4	3	1.3	26		
76.703	8.3	0.83	1	6	0.0	3	3.0	26		
78.644	13.9	0.64	1	6	+0.1	3	2.5	26		
77.064	11.3	0.73	3n		2.3			26-Inch		
	OL 26			20 27.9	-31 15					
78.770	332.1	2.00	2	5	+0.4	1	1.8	36		
78.776	330.9	1.73	2	4	+0.6	1	1.5	36		
78.781	329.0	2.01	2	5	+0.5	1	1.4	36		
78.776	330.7	1.91	3n		1.6			36-Inch		
13908	A 733			20 28.4	+60 15					
81.637	175.5	1.25	2	4	0.0	3	1.2	26		
81.787	171.7	1.10	2	8	0.0	4	1.2	26		
81.807	168.8	1.08	2	6	0.0	4	1.0	26		
81.842	172.6	1.05	2	7	-0.4	3	0.8	26		
81.768	172.2	1.12	4n		1.0			26-Inch		

13894 A 610 20 29.1 +07 10

78.721	332.9	0.27	1	6	0.0	3	0.3	26	
78.836	340.4	0.20	2	6	-0.2	3	0.2	26	
79.718	334.6	0.27	3	7	0.0	3	0.2	26	
79.797	339.9	0.35	1	7	0.0	4	0.4	26	
85.589	3.5	0.26	1	6	0.0	3	0.3	26	
85.644	1.5	0.33	1	6	-0.1	3	0.3	26	
86.690	11.5	0.41	1	5	-0.1	3		26	
86.712	9.8	0.26	1	5	-0.1	3		26	
79.268	337.0	0.27	4n		0.3			26-Inch	
86.159	6.6	0.32	4n		0.3			26-Inch	

Heintz, 1979: +0.4, -0.05; +3.1, 0.00.

I 1421 20 29.1 -48 26

78.773	353.4	0.32	2	6	+0.6	2	0.2	36	
78.781	350.2	0.36	2	5	+0.5	1	0.0	36	
78.784	351.2	0.36	2	8	+0.6	1	0.2	36	
78.779	351.6	0.35	3n		0.1			36-Inch	

Angular decrease.

KUI 97 20 29.5 +56 04

81.787	138.4	0.78	2	7	+0.1	4	2.8	26	
81.807	137.0	0.89	2	6	+0.1	4	2.5	26	
81.826	136.8	0.83	3	6	-0.2	4	1.8	26	
81.842	137.9	0.82	2	7	-0.5	3	2.0	26	
81.816	137.5	0.83	4n		2.3			26-Inch	

The angle and separation continue to increase slowly.

WOR 9 20 30.2 +26 51

77.760	323.2	1.05	2	5	0.0	3	0.2	26	
77.763	323.1	1.07	2	6	0.0	3	0.2	26	
78.529	321.8	1.03	2	6	0.0	3	0.3	26	
78.551	322.4	1.04	2	8	0.0	3	0.1	26	
84.648	315.2	0.95	2	6	-0.1	3	0.4	26	
84.713	313.0	0.88	2	6	+0.2	3	0.2	26	
84.716	314.8	1.10	2	6	-0.1	3	0.3	26	
84.724	310.2	0.86	2	5	-0.1	3	0.2	26	
78.151	322.6	1.05	4n		0.2			26-Inch	
84.700	313.2	0.95	4n		0.3			26-Inch	

The slow decrease in angle and separation continues.

13921 BU 987 20 30.2 +19 25

86.824	126.9	2.60	2	5	0.0	3	4.0	26	
86.830	125.4	2.51	2	7	0.0	3	2.5	26	
86.827	126.2	2.56	2n		3.3			26-Inch	

B 485 20 30.3 -57 41

84.773	82.4	0.35	2	5	+0.5	3	0.9	60	
84.776	82.8	0.31	2	5	+0.6	3	0.4	60	
84.782	82.5	0.31	2	6	+0.6	3	1.0	60	
84.777	82.6	0.32	3n		0.8			60-Inch	

No measures since 1937. Angular increase.

13940 AG 257 20 31.2 +05 12

81.842	248.3	1.76	2	7	-0.1	4	0.2	26	
81.864	248.2	1.76	2	7	+0.1	3	0.2	26	
81.867	248.4	1.75	2	7	+0.3	3	0.1	26	
81.858	248.3	1.76	3n		0.2			26-Inch	

13951 A 395 20 31.6 +05 29

81.842	170.3	0.76	1	7	0.0	4	1.4	26	
81.864	165.8	0.63	1	6	+0.2	3	1.7	26	
81.867	167.4	0.59	3	7	+0.4	3	1.5	26	
81.858	167.8	0.66	3n		1.5			26-Inch	

GLI 259 20 31.9 -40 54

78.770	157.7	4.02	2	5	+0.4	1	0.1	36	
78.773	157.6	4.02	2	7	+0.7	2	0.1	36	
78.776	158.5	4.07	2	4	+0.7	1	0.2	36	
78.773	157.9	4.04	3n		0.1			36-Inch	

HJ 1528 20 32.1 +12 20

84.724	237.7	9.98	2	5	0.0	3	0.8	26	
86.712	238.5	10.21	2	5	-0.1	3	0.5	26	
86.767	240.1	10.03	2	7	-0.2	3	0.5	26	
86.068	238.8	10.07	3n		0.6			26-Inch	

RST 5470 20 32.1 -45 21

78.806	335.8	0.10	2	7	+0.3	1	0.0	60	
78.808	332.6	0.13	2	7	+0.5	1	0.2	60	
84.787	329.6	0.14	2	6	+0.6	3	0.2	60	
84.790	326.6	0.14	2	8	+1.1	3	0.6	60	
84.793	322.3	0.17	2	7	+0.7	3	0.5	60	
78.807	334.2	0.12	2n		0.1			60-Inch	
84.790	326.2	0.15	3n		0.4			60-Inch	

No measures since discovery in 1945. At this small separation, the quadrant is uncertain, but rapid motion is evident.

13968 A 2281 20 32.4 +04 26

81.842	62.1	1.69	4	7	+0.1	4	2.7	26	
81.864	65.3	1.79	2	6	+0.3	3	2.8	26	
81.867	65.9	1.79	2	7	+0.4	3	3.0	26	
81.858	64.4	1.76	3n		2.8			26-Inch	

13961 SEE 20 32.6 -16 37

78.792	130.6	0.23	2	5	+0.7	1	0.2	60		
78.803	132.8	0.21	1	5	+0.8	1	0.2	60		
78.808	128.6	0.22	1	6	+1.0	1	0.4	60		
78.801	130.7	0.22	3n		0.3				60-Inch	

Heintz, 1978: +5.4, -0.05.

13986 BU 670 20 32.9 +13 56

78.839	15.8	0.73	1	6	-0.1	3	0.3	26		
79.718	15.5	0.77	2	6	0.0	3	0.4	26		
79.797	13.4	0.83	1	7	0.0	4	0.3	26		
85.559	13.2	0.76	1	6	-0.1	3	0.4	26		
85.589	14.5	0.69	1	6	0.0	3	0.5	26		
85.644	12.6	0.71	1	6	0.0	3	0.5	26		
79.451	14.9	0.78	3n		0.3				26-Inch	
85.597	13.4	0.72	3n		0.5				26-Inch	

13987 L 35 20 32.9 +13 56

78.529	269.4	0.28	2	6	+0.1	3	0.3	26		
78.551	270.4	0.35	2	7	+0.1	3	0.3	26		
78.642	275.6	0.29	2	5	0.0	3	0.2	26		
80.654	260.8	0.33	2	6	-0.1	3	0.3	26		
80.657	263.2	0.35	2	7	0.0	3	0.2	26		
80.676	262.8	0.35	2	7	0.0	4	0.3	26		
85.559	247.2	0.28	4	6	0.0	3	0.5	26		
85.589	254.9	0.34	2	5	+0.1	3		26		
85.644	249.0	0.31	2	6	0.0	3		26		
86.788	249.4	0.40	2	6	0.0	3	0.2	26		
86.802	238.6	0.40	2	6	+0.1	3		26		
86.830	241.8	0.41	2	7	0.0	3	0.0	26		
86.849	238.3	0.38	2	7	0.0	3		26		
78.574	271.8	0.31	3n		0.3				26-Inch	
80.662	262.3	0.34	3n		0.3				26-Inch	
85.597	250.4	0.31	3n		0.5				26-Inch	
86.817	242.0	0.40	4n		0.1				26-Inch	

Starikova, 1983: +1.6, -0.05; +0.3, -0.03;
+6.9, -0.07; +2.9, +0.02.

13983 J 1 20 32.9 +11 42

79.808	51.4	1.98	2	5	+0.1	3	0.2	26		
79.827	50.2	1.97	2	5	0.0	3	0.3	26		
79.833	52.6	1.96	2	7	0.0	3	0.2	26		
79.823	51.4	1.97	3n		0.2				26-Inch	

RST 1073 20 33.2 -57 18

84.773	101.4	0.45	2	6	+0.5	3	0.4	60		
84.782	101.1	0.41	2	6	+0.4	3	0.4	60		
84.784	98.2	0.34	2	5	+0.7	3		60		
84.780	100.2	0.40	3n		0.4				60-Inch	

13997 STF 2696 20 33.6 +05 26

86.778	298.3	0.48	2	6	-0.1	3	0.3	26		
86.802	298.2	0.50	2	6	0.0	3	0.4	26		
86.805	302.2	0.55	2	4	-0.1	3	0.3	26		
86.808	298.9	0.65	2	6	-0.2	3	0.3	26		
86.798	299.4	0.54	4n		0.3				26-Inch	

14007 A 1431 20 33.7 +38 35

80.720	30.4	0.91	2	5	0.0	3	0.8	26		
80.769	29.6	0.95	2	6	-0.2	3	0.6	26		
80.772	26.0	0.87	2	3	0.0	3	0.6	26		
80.807	30.2	0.87	2	3	-0.1	3	0.8	26		
80.767	29.0	0.90	4n		0.7				26-Inch	

I 1423 20 34.2 -48 17

84.795	48.2	1.43	2	7	+0.7	4	0.4	36		
84.798	49.8	1.43	2	8	+0.3	4	0.2	36		
84.801	49.4	1.35	2	7	+0.4	4	0.5	36		
84.798	49.1	1.40	3n		0.4				36-Inch	

HU 1615 20 34.8 -63 19

84.795	47.9	0.15	2	7	+0.8	4	0.2	36		
84.798	48.6	0.15	2	8	+0.4	4		36		
84.801	47.0	0.19	2	7	+0.4	4	0.3	36		
84.798	47.8	0.16	3n		0.2				36-Inch	

Closed in and beginning to move rapidly.

LDS 714 20 35.3 -50 13

84.787	268.8	0.92	1	7	+0.7	3	1.8	60		
84.790	273.2	1.06	2	8	+1.2	3	2.5	60		
84.793	276.1	1.35	2	7	+0.9	3	3.0	60		
84.790	272.7	1.11	3n		2.4				60-Inch	

This is the only measure.

14052 AG 258 20 36.6 +10 27

86.463	8.2	4.07	1	4	0.0	3	0.3	26		
86.709	7.3	4.10	1	6	-0.2	3	0.4	26		
86.712	9.2	4.12	1	7	0.0	3	0.4	26		
86.788	8.2	4.08	1	6	0.0	3	0.6	26		
86.668	8.2	4.09	4n		0.4				26-Inch	

14073	BU 151		20 37.5 +14 36				
77.631	359.1	0.56	1	5	+0.5	3	0.8 26
77.746	0.1	0.60	1	7	-0.1	3	0.6 26
77.757	357.0	0.64	1	5	0.0	3	0.8 26
77.760	356.4	0.60	1	5	0.0	3	0.5 26
78.510	0.7	0.59	1	4	-0.2	3	0.5 26
78.512	2.0	0.64	1	5	-0.2	3	0.5 26
78.529	0.8	0.50	1	6	+0.1	3	0.5 26
78.642	1.8	0.51	1	5	0.0	3	0.6 26
79.718	3.1	0.60	1	6	0.0	3	0.8 26
79.797	7.9	0.51	1	7	0.0	4	0.8 26
79.800	6.7	0.57	1	5	0.0	4	0.8 26
79.808	6.6	0.58	1	5	0.0	3	0.8 26
80.654	6.9	0.56	2	6	-0.1	3	0.7 26
80.657	8.6	0.61	1	6	0.0	3	0.8 26
80.659	10.5	0.55	2	8	-0.1	3	0.7 26
80.676	9.3	0.58	1	7	-0.1	4	0.7 26
81.637	12.0	0.57	1	4	0.0	3	0.5 26
81.650	14.6	0.50	1	5	0.0	5	1.1 26
81.653	11.5	0.50	1	7	-0.1	3	0.8 26
81.692	13.0	0.54	2	5	0.0	3	0.6 26
82.825	19.5	0.36	1	5	0.0	3	0.6 26
82.833	24.8	0.39	2	5	-0.5	4	0.8 26
83.854	27.4	0.27	2	7	-0.1	3	0.8 26
83.857	29.2	0.29	2	7	0.0	3	0.8 26
83.893	29.8	0.25	3	7	+0.8	3	0.8 26
84.648	38.6	0.31	2	5	0.0	3	1.0 26
84.713	32.9	0.22	2	6	+0.2	3	1.0 26
84.716	33.8	0.21	2	5	+0.1	3	0.8 26
84.724	38.4	0.25	2	6	0.0	3	0.8 26
85.559	60.7	0.24	2	7	-0.1	3	1.0 26
85.589	62.3	0.25	2	6	0.0	3	1.0 26
85.644	63.4	0.22	2	6	0.0	3	1.0 26
86.690	99.5	0.23	2	5	-0.1	3	1.0 26
86.709	104.8	0.23	2	5	-0.1	3	1.0 26
86.712	105.5	0.20	2	6	0.0	3	1.0 26
86.767	106.1	0.20	2	8	-0.2	3	1.0 26
86.788	107.8	0.20	2	6	0.0	3	26
86.849	104.0	0.17	2	7	-0.1	3	1.0 26
87.635	135.2	0.20	2	5	-0.1	3	1.0 26
87.760	133.0	0.18	2	5	-0.2	3	1.0 26
87.788	131.1	0.24	2	5	0.0	3	0.8 26
87.807	133.1	0.25	2	6	+0.1	3	1.0 26
87.840	128.4	0.23	2	6	-0.3	3	0.8 26
87.865	133.4	0.24	2	5	-0.2	3	0.8 26
77.724	358.2	0.60	4n	0.7	26-Inch		
78.548	1.3	0.56	4n	0.5	26-Inch		
79.781	6.1	0.56	4n	0.8	26-Inch		
80.662	8.8	0.58	4n	0.7	26-Inch		
81.658	12.8	0.53	4n	0.8	26-Inch		
82.829	22.2	0.38	2n	0.7	26-Inch		
83.868	28.8	0.27	3n	0.8	26-Inch		
84.700	35.9	0.25	4n	0.9	26-Inch		
85.597	62.1	0.24	3n	1.0	26-Inch		
86.752	104.6	0.20	6n	1.0	26-Inch		
87.782	132.4	0.22	6n	0.9	26-Inch		

Couteau, 1962: +0.2, -0.03; +0.6, -0.06;
+1.1, -0.03; +0.4, +0.03;
-0.2, +0.03; +2.1, -0.04;
-0.7, -0.07; -5.5, -0.02;
-1.4, +0.04; 0.0, +0.03.
-9.9, 0.00.

Slightly better than Finsen's orbit.

14079	A 742 BC		20 37.8 +29 43				
80.657	129.3	1.17	2	6	+0.1	3	0.8 26
80.659	129.9	1.18	2	8	0.0	3	1.2 26
80.676	129.9	1.24	2	6	0.0	4	0.6 26
80.664	129.7	1.20	3n	0.9	26-Inch		
	HEI 77		20 39.3 +15 29				
86.767	43.1	1.35	2	8	-0.1	3	0.0 26
86.788	41.5	1.49	2	6	+0.2	3	0.0 26
86.802	42.9	1.24	2	6	+0.1	3	26
86.786	42.5	1.36	3n	0.0	26-Inch		
14099	HU 200		20 39.3 -14 57				
78.781	112.0	0.33	2	7	+0.7	1	0.2 36
78.784	113.7	0.34	2	7	+0.2	1	0.2 36
78.789	111.5	0.36	2	8	+0.5	1	0.4 36
84.790	112.4	0.28	2	7	+0.9	3	0.4 60
84.793	110.0	0.31	2	8	+0.8	3	0.4 60
78.785	112.4	0.34	3n	0.3	36-Inch		
84.792	111.2	0.30	2n	0.4	60-Inch		

Heintz, 1979: -0.4, +0.04; -4.1, +0.01.

14126	STT 410		20 39.6 +40 35				
86.805	7.1	0.97	2	4	0.0	3	0.3 26
86.808	6.9	0.79	2	6	-0.1	3	0.3 26
86.824	10.0	0.81	2	6	0.0	3	0.3 26
86.830	4.7	0.81	2	7	+0.1	3	0.2 26
86.817	7.2	0.84	4n	0.3	26-Inch		
14128	A 1432		20 39.6 +36 58				
77.760	120.5	0.43	2	4	0.0	3	0.0 26
77.763	122.0	0.36	2	5	0.0	3	0.1 26
78.642	119.9	0.40	2	4	+0.1	3	0.1 26
78.055	120.8	0.40	3n	0.0	26-Inch		
	KUI 99		20 39.6 +04 58				
76.703	322.7	0.38	1	7	+0.1	3	2.0 26
76.728	320.0	0.39	1	6	+0.1	3	1.2 26
77.746	317.3	0.33	1	6	0.0	3	1.2 26
77.763	313.0	0.28	3	6	0.0	3	1.2 26
78.529	326.8	0.22	2	6	+0.2	3	1.5 26
78.551	327.6	0.20	3	8	+0.2	3	2.0 26
78.644	326.8	0.26	1	7	0.0	3	2.0 26
78.721	331.7	0.19	3	5	0.0	3	26
81.787	93.5	0.22	2	7	0.0	4	1.0 26
81.807	96.7	0.20	2	6	+0.1	4	1.0 26
81.826	98.9	0.23	2	6	+0.1	4	0.8 26
81.842	99.1	0.26	2	7	-0.3	4	1.2 26

83.854	110.2	0.49	2	6	0.0	3	1.2	26
83.857	115.8	0.49	2	7	0.0	3	1.0	26
83.893	114.3	0.42	2	7	+0.9	3	1.0	26
84.648	120.7	0.63	2	5	0.0	3		26
84.713	118.6	0.63	2	5	+0.4	3	1.1	26
84.716	116.8	0.55	2	5	+0.2	3	1.2	26
84.724	119.7	0.49	2	5	+0.1	3	1.0	26
85.559	125.7	0.60	2	5	0.0	3	1.2	26
85.589	122.3	0.60	2	5	+0.1	3	1.3	26
85.644	129.2	0.67	2	4	+0.1	3	1.2	26
86.712	124.5	0.73	2	5	0.0	3	1.2	26
86.767	119.9	0.79	2	7	0.0	3	1.2	26
86.788	123.6	0.82	2	6	+0.1	3	1.2	26
86.802	121.6	0.86	2	6	+0.1	3	1.0	26
86.830	120.4	0.83	2	6	-0.1	3	1.1	26
87.788	128.3	0.83	2	5	0.0	3	1.2	26
87.807	124.7	0.81	2	7	+0.2	3	1.4	26
87.840	122.6	0.93	2	5	-0.2	3	1.4	26
87.865	126.2	0.70	2	5	+0.1	3	1.2	26
77.235	318.2	0.34	4n		1.5			26-Inch
78.611	328.2	0.22	4n		1.8			26-Inch
81.816	97.0	0.23	4n		1.0			26-Inch
83.868	113.4	0.47	3n		1.1			26-Inch
84.700	119.0	0.58	4n		1.1			26-Inch
85.597	125.7	0.62	3n		1.2			26-Inch
86.780	122.0	0.81	5n		1.1			26-Inch
87.825	125.4	0.82	4n		1.3			26-Inch

Heintz, 1984: +1.2, -0.06; +4.0, -0.03;
-5.3, +0.06; -4.8, +0.07;
-1.4, +0.10; +3.6, +0.05;
-1.7, +0.14; +0.7, +0.07.
Separations confirmed by speckle. The orbit represents the angles tolerably well, but there is still a problem with the separations.

HU 1617 20 40.3 -51 14

78.806	141.6	0.09	2	7	+0.5	1		60
78.808	141.1	0.09	2	8	+0.6	1		60
78.807	141.4	0.09	2n					60-Inch

14148 A 2795 20 40.6 +21 55

81.653	259.7	0.23	2	7	0.0	3	0.5	26
81.692	252.9	0.24	2	5	+0.1	3		26
81.787	254.2	0.22	2	7	+0.1	4	0.2	26
81.807	250.2	0.21	2	6	+0.1	4		26
84.853	245.0	0.24	2	7	+0.1	3		26
84.872	249.7	0.25	2	5	0.0	3		26
85.559	254.4	0.25	2	5	+0.1	3	0.0	26
81.735	254.2	0.22	4n		0.3			26-Inch
85.094	249.7	0.25	3n		0.0			26-Inch

14150 STF 2713 20 40.9 +10 34

86.463	63.4	5.10	2	4	0.0	3	0.0	26
86.709	62.2	4.98	2	5	-0.1	3	0.2	26
86.767	62.0	5.28	2	7	0.0	3	0.2	26
86.646	62.5	5.12	3n		0.1			26-Inch

COU 226 20 41.8 +19 31

79.833	197.0	0.29	1	7	0.0	4	0.2	26
79.852	202.8	0.27	2	7	0.0	3	0.3	26
79.871	206.4	0.30	2	5	+0.2	3	0.3	26
79.885	197.7	0.27	2	8	+0.2	3	0.3	26
86.808	19.3	0.30	2	6	0.0	3	0.3	26
86.824	20.7	0.39	2	5	0.0	3	0.3	26
86.830	25.4	0.29	2	7	+0.2	3		26
86.849	23.1	0.29	2	8	0.0	3	0.3	26
79.860	201.0	0.28	4n		0.3			26-Inch
86.828	22.1	0.32	4n		0.3			26-Inch

Quadrant in doubt.

LDS 720 BC 20 41.8 -32 26

78.773	171.7	4.85	2	5	+0.3	1	1.4	36
78.773	171.7	5.16	2	7	+0.6	2	2.0	36
78.776	170.4	5.04	2	4	+0.6	1	1.6	36
78.773	171.3	5.02	3n		1.7			36-Inch

Mourao, 1976: -29.6, +1.28.
Wilson, 1977: -40.1, +0.95.
Neither orbit represents the motion.

14196 BU 152 20 42.3 +57 24

79.846	88.3	1.24	2	6	-0.2	3	0.8	26
79.852	90.5	1.13	2	6	0.0	3	0.8	26
79.871	92.0	1.24	2	4	0.0	3	0.8	26
79.885	91.4	1.12	2	8	+0.1	3	0.8	26
79.864	90.6	1.18	4n		0.8			26-Inch

KUI 100 20 42.9 -18 57

78.781	260.8	2.55	2	5	+0.5	1	3.2	36
78.784	263.6	2.55	2	7	+0.3	1	2.6	36
78.789	259.2	3.68	2	8	+0.5	1	4.0	36
78.806	260.8	3.16	4	7	+0.7	1	3.0	60
78.785	261.2	2.93	3n		3.3			36-Inch
78.806	260.8	3.16	1n		3.0			60-Inch

14228 BU 471 20 43.3 +62 26

79.846	307.0	1.99	2	6	-0.1	3	0.2	26
79.852	307.8	2.14	2	7	0.0	3	0.1	26
80.654	305.0	1.94	2	7	-0.1	3	0.1	26
80.117	306.6	2.02	3n		0.1			26-Inch

14252 KR 51 20 44.4 +59 02

79.852	183.7	1.60	2	5	+0.1	3	1.0	26
80.654	180.7	1.45	2	6	0.0	3	1.2	26
80.657	182.6	1.44	2	7	0.0	3	0.6	26
80.388	182.3	1.50	3n		0.9			26-Inch

14238 BU 64 20 45.0 +12 44

78.680	342.9	0.54	2	5	0.0	3	0.2	26
78.721	343.7	0.55	2	4	+0.1	3	0.2	26
78.737	343.0	0.47	1	5	+0.1	3	0.3	26
81.653	342.8	0.65	2	7	0.0	3	0.2	26
81.692	345.0	0.66	2	5	+0.1	3	0.3	26
81.735	341.3	0.53	2	4	-0.3	4	0.2	26
81.785	342.3	0.62	4	3	+0.2	3	0.3	26
86.463	340.1	0.57	2	3	0.0	3		26
86.690	346.0	0.78	2	5	-0.2	3		26
86.709	347.9	0.66	1	5	-0.1	3		26
86.712	348.2	0.68	1	5	0.0	3		26
78.713	343.2	0.52	3n		0.2		26-Inch	
81.716	342.8	0.62	4n		0.2		26-Inch	
86.644	345.6	0.67	4n				26-Inch	

Baize, 1957: +0.5, -0.03; -1.4, +0.07;
-1.1, +0.12.

14233 STF 2723 20 45.0 +12 19

80.769	121.6	1.22	2	5	-0.3	3		26
80.810	124.4	1.16	2	3	-0.1	3	1.0	26
80.832	121.1	1.15	2	3	-0.1	3	1.3	26
80.851	122.8	1.23	2	5	0.0	3	1.5	26
80.816	122.5	1.19	4n		1.3		26-Inch	

I 17 20 45.0 -50 29

84.776	37.2	0.89	2	5	+0.6	3	0.0	60
84.782	34.5	0.88	2	7	+0.6	3	0.2	60
84.784	35.6	0.92	2	5	+0.6	3		60
84.781	35.8	0.90	3n		0.1		60-Inch	

14224 I 666 20 45.1 -23 45

78.792	242.2	0.13	2	5	+0.6	1		60
78.800	256.5	0.14	2	4	+0.5	1		60
78.806	249.0	0.10	2	7	+0.7	1		60
78.799	249.2	0.12	3n				60-Inch	

14253 A 1210 20 45.7 +08 38

87.788	248.7	4.13	2	5	0.0	3	2.5	26
87.804	247.7	4.10	2	4	0.0	3	1.5	26
87.823	252.3	4.27	2	4	0.0	3	2.5	26
87.840	249.1	3.86	2	6	0.0	3	3.5	26
87.814	249.4	4.09	4n		2.5		26-Inch	

14249 BU 834 20 45.7 +07 09

81.842	134.4	2.32	2	7	0.0	4	2.5	26
81.864	133.4	2.33	2	6	+0.2	3	2.2	26
81.867	131.7	2.24	2	7	+0.3	3	2.6	26
81.858	133.2	2.30	3n		2.4		26-Inch	

14260 A 173 20 45.8 +24 16

80.851	129.0	1.03	2	5	0.0	3	1.5	26
81.653	129.8	0.95	2	6	0.0	3	1.6	26
81.692	126.8	1.10	2	5	+0.1	3	1.8	26
81.787	130.5	1.02	2	7	+0.1	4	1.8	26
81.496	129.0	1.02	4n		1.7		26-Inch	

14262 B 500 20 46.5 -21 41

78.770	120.7	1.13	2	5	+0.2	1	0.4	36
78.773	119.3	1.27	2	6	+0.7	2	0.8	36
78.789	118.5	1.35	2	7	+1.0	1	0.6	36
78.777	119.5	1.25	3n		0.6		36-Inch	

KUI 101 20 46.7 +46 31

80.654	109.2	0.31	3	6	+0.1	3	2.2	26
80.654	109.2	0.31	1n		2.2		26-Inch	

14286 BU 364 20 47.0 +25 25

86.808	242.1	1.00	2	7	0.0	3	0.2	26
86.824	241.8	0.84	2	5	0.0	3	0.0	26
86.830	243.2	0.92	2	7	+0.1	3	0.3	26
86.849	241.7	1.00	2	8	0.0	3	0.0	26
86.828	242.2	0.94	4n		0.1		26-Inch	

14296 STT 413 APXB 20 47.4 +36 29

79.808	16.8	0.86	2	5	0.0	3	1.8	26
79.827	15.6	0.81	2	5	-0.2	3	1.5	26
79.833	14.8	0.83	2	6	-0.1	4	1.3	26
79.846	13.5	0.86	2	7	0.0	3	1.3	26
79.828	15.2	0.84	4n		1.5		26-Inch	

Rabe, 1948: -0.4, -0.01.
Baize, 1983: -1.7, -0.05.
The later orbit is no improvement.
The primary has been resolved into a close pair by McAlister and colleagues.

14280 BU 153 20 47.4 -26 25

78.770	257.6	1.83	2	5	+0.3	1	1.2	26
78.776	259.2	1.64	2	5	+0.8	1	1.8	26
78.789	257.3	1.81	2	9	+1.0	1	1.0	26
78.778	258.0	1.76	3n		1.3		36-Inch	

14312 BU 66 20 48.1 +27 27

87.804	165.6	1.11	1	4	0.0	3	0.7	26
87.807	166.5	1.09	2	7	+0.1	3	0.4	26
87.840	166.3	1.08	2	6	0.0	3	0.5	26
87.865	169.9	1.01	2	4	0.0	3		26
87.829	167.1	1.07	4n		0.5		26-Inch	

14297 A 174 20 48.1 -03 02

78.781	359.7	0.48	1	6	+0.7	1	1.0	36		
78.784	2.7	0.57	1	6	+0.5	1	0.8	36		
78.789	4.8	0.62	1	8	+0.5	1	1.0	36		
78.784	2.4	0.56	3n		0.9			36-Inch		

14300 FIN 8 20 48.6 -28 04

78.770	192.2	2.43	2	5	+0.4	1	0.8	36		
78.776	191.8	2.35	2	5	+0.9	1	1.5	36		
78.789	190.3	2.43	2	8	+1.1	1	1.2	36		
78.778	191.4	2.40	3n		1.2			36-Inch		

14320 HO 142 20 48.8 -02 14

79.718	8.9	0.96	1	6	-0.1	3	0.2	26		
79.808	9.0	1.07	1	5	0.0	3	0.2	26		
79.827	11.6	0.92	1	5	0.0	3	0.2	26		
79.833	8.8	1.02	1	7	0.0	4	0.1	26		
79.796	9.6	0.99	4		0.2			26-Inch		

14333 J 194 20 49.4 +11 24

78.680	207.3	0.75	2	5	0.0	3	0.2	26		
78.737	203.3	0.62	1	5	+0.1	3	0.2	26		
78.836	206.6	0.71	2	6	-0.1	3		26		
78.839	205.8	0.63	2	7	-0.3	3	0.1	26		
80.676	202.4	0.81	2	7	0.0	4	0.0	26		
80.720	202.9	0.83	1	5	0.0	3	0.2	26		
80.769	207.1	0.81	2	5	-0.3	3	0.0	26		
80.851	203.1	0.65	2	5	0.0	3	0.0	26		
85.589	191.5	0.70	1	6	0.0	3	0.1	26		
85.644	193.2	0.66	1	5	+0.2	3		26		
86.690	192.2	0.87	2	5	-0.2	3		26		
86.767	190.5	0.74	1	7	-0.1	3	0.0	26		
78.773	205.8	0.68	4n		0.1			26-Inch		
80.754	203.9	0.78	4n		0.0			26-Inch		
86.172	191.8	0.74	4n		0.0			26-Inch		

Baize, 1985: -1.2, -0.04; -0.3, +0.05;
-5.0, -0.02.

14355 BU 67 20 50.5 +30 54

86.808	311.7	1.51	2	7	0.0	3	2.5	26		
86.824	310.1	1.66	2	5	0.0	3	3.0	26		
86.830	308.6	1.60	2	7	+0.1	3	2.6	26		
86.849	306.6	1.46	2	8	0.0	3	2.5	26		
86.828	309.2	1.56	4n		2.6			26-Inch		

B 997 20 50.7 -31 16

78.800	41.4	0.16	3	5	+0.6	1		60		
78.806	46.6	0.13	1	7	+0.9	1	0.7	60		
78.808	58.1	0.17	2	6	+0.9	1	0.8	60		
84.784	70.0	0.22	2	5	+0.9	3	0.8	60		
84.787	78.3	0.19	2	7	+0.6	3	0.8	60		
84.790	76.1	0.16	1	7	+1.2	3	0.8	60		
78.805	48.7	0.15	3n		0.8			60-Inch		
84.787	74.8	0.19	3n		0.8			60-Inch		

Heintz, 1973: -2.2, -0.11; +5.7, -0.10.

14370 BU 155 20 51.1 +51 25

76.613	34.5	0.78	1	6	0.0	4	0.8	26		
76.728	37.8	0.84	2	7	0.0	3	0.7	26		
77.746	36.4	0.76	2	5	0.0	3	0.7	26		
79.727	37.8	0.86	2	6	-0.1	3	0.8	26		
77.704	36.0	0.81	4n		0.8			26-Inch		

14360 STF 2729 20 51.4 -05 38

80.676	11.0	1.02	1	6	0.0	3	1.2	26		
80.720	10.5	1.09	1	5	0.0	3	1.0	26		
80.769	10.0	1.04	1	6	-0.3	3	1.2	26		
80.851	10.7	0.92	1	5	+0.1	3	1.4	26		
80.754	10.6	1.02	4n		1.2			26-Inch		

Heintz, 1982: -0.4, +0.02.

14368 A 613 20 51.9 +05 45

84.648	340.0	0.77	2	6	0.0	3	0.2	26		
84.853	336.2	0.79	2	6	0.0	3	0.0	26		
84.872	336.9	0.70	2	5	0.0	3	0.0	26		
84.791	337.7	0.75	3n		0.1			26-Inch		

14395 HU 762 20 52.0 +61 27

77.757	168.3	1.53	1	5	0.0	3	0.7	26		
77.763	167.1	1.56	1	5	0.0	3	1.2	26		
78.644	168.6	1.71	2	7	0.0	3	0.6	26		
78.054	168.0	1.60	3n		0.8			26-Inch		

14374 A 1212 20 52.1 +10 15

78.836	19.1	0.47	2	6	0.0	3	0.2	26		
78.839	14.1	0.54	1	6	+0.2	3	0.3	26		
79.718	16.2	0.62	1	6	0.0	3	0.6	26		
79.131	16.5	0.54	3n		0.4			26-Inch		

14361 FIN 5 20 52.1 -29 39

78.770	77.5	2.04	2	4	+0.6	1	3.0	36		
78.784	76.1	2.10	2	7	+0.7	1	2.8	36		
78.789	75.1	1.98	2	7	+1.1	1	2.5	36		
78.781	76.2	2.04	3n		2.8			36-Inch		

14372 A 2286 ABXC 20 52.2 +02 06

81.653	43.2	1.06	2	5	0.0	3	1.0	26		
81.842	40.5	1.02	2	7	-0.1	4	1.2	26		
81.864	43.0	1.01	2	6	+0.2	3	1.0	26		
81.786	42.2	1.03	3n		1.1			26-Inch		

14379 HO 144 20 52.3 +20 08

79.718	345.5	0.30	1	6	0.0	3	0.2	26
79.797	347.6	0.34	1	7	0.0	4	0.3	26
79.800	350.2	0.31	2	4	-0.3	4	0.2	26
79.808	347.6	0.31	2	5	0.0	3	0.1	26
85.589	349.1	0.32	2	5	0.0	3	0.0	26
85.644	346.1	0.34	2	5	0.0	3	0.3	26
86.690	353.0	0.28	1	6	-0.2	3		26
86.709	344.5	0.34	2	5	-0.1	3	0.0	26
79.781	347.7	0.32	4n		0.2			26-Inch
86.158	348.2	0.32	4n		0.1			26-Inch

14392 A 1435 20 52.6 +36 55

76.703	355.1	0.35	2	6	0.0	3	0.3	26
76.728	355.4	0.33	2	7	0.0	3	0.2	26
77.757	354.1	0.37	2	5	-0.1	3	0.2	26
77.763	357.8	0.32	2	5	0.0	3	0.2	26
77.238	357.6	0.34	4n		0.2			26-Inch

HJ 1585 20 52.7 +15 28

86.709	194.2	14.37	1	5	0.0	3	1.0	26
86.712	193.4	14.53	4	5	0.0	3	2.0	26
86.788	195.2	14.25	3	6	0.0	3	2.0	26
86.736	194.3	14.38	3n		1.7			26-Inch

B 505 20 53.8 -55 35

84.782	342.7	0.11	2	6	+0.3	3		60
84.790	342.0	0.09	2	8	+1.0	3		60
84.786	342.4	0.10	2n					60-Inch

14408 A 877 20 54.6 -00 42

81.842	18.9	0.50	2	7	0.0	4	0.6	26
81.864	21.9	0.55	2	6	+0.3	3	0.4	26
81.867	20.5	0.48	2	7	+0.3	3	0.4	26
81.858	20.4	0.51	3n		0.5			26-Inch

14421 STT 418 20 54.8 +32 42

86.805	285.5	1.16	2	4	-0.2	3	0.1	26
86.808	285.7	1.11	2	7	0.0	3	0.1	26
86.824	286.7	1.03	2	6	0.0	3	0.0	26
86.830	285.8	1.13	2	7	+0.1	3	0.1	26
86.817	285.9	1.11	4n		0.1			26-Inch

14424 BU 367 20 55.1 +28 06

79.846	114.6	0.49	2	8	-0.1	3	0.4	26
79.852	117.0	0.53	2	5	0.0	3	0.4	26
79.871	115.2	0.42	2	5	0.0	3	0.4	26
79.885	115.3	0.46	2	8	+0.2	3	0.4	26
83.854	116.6	0.43	2	6	-0.1	3	0.4	26
83.857	116.8	0.56	2	7	-0.1	3	0.3	26
83.893	116.8	0.51	2	7	+0.7	3	0.4	26
86.808	119.0	0.59	2	6	0.0	3	0.3	26
86.824	124.5	0.53	2	5	+0.1	3		26
86.830	118.3	0.49	2	7	+0.2	3	0.3	26
86.849	118.5	0.51	2	8	0.0	3	0.5	26
79.864	115.5	0.48	4n		0.4			26-Inch
83.868	116.7	0.50	3n		0.4			26-Inch
86.828	120.1	0.53	4n		0.4			26-Inch

Heintz, 1962: -2.8, -0.03; -4.9, -0.02;
-4.0, +0.03.

14427 J 1318 20 55.4 +08 36

81.653	136.6	0.85	2	6	0.0	3	0.8	26
81.807	137.6	0.95	3	5	0.0	4	1.2	26
81.826	136.0	0.89	2	6	0.0	4	0.8	26
81.762	136.7	0.90	3n		0.9			26-Inch

14422 HU 81 20 55.6 -11 47

78.773	37.5	0.22	2	6	+0.7	2	0.3	26
78.781	38.6	0.27	2	6	+0.7	1	0.2	26
78.784	35.5	0.27	2	6	+0.5	1	0.2	26
78.779	37.2	0.25	3n		0.2			36-Inch

14430 STF 2735 20 55.7 +04 32

76.689	284.4	2.07	2	4	0.0	3	1.0	26
77.746	285.7	1.92	2	6	+0.3	3	0.8	26
77.757	284.6	2.05	2	5	+0.1	3	1.0	26
81.653	285.0	2.14	2	6	+0.1	3	1.3	26
81.692	284.5	1.99	2	4	+0.1	3	1.5	26
81.735	284.4	2.13	2	3	-0.3	4	1.6	26
77.397	284.9	2.01	3n		0.9			26-Inch
81.693	284.6	2.09	3n		1.5			26-Inch

14452 A 753 20 56.1 +46 15

78.839	258.3	0.84	2	6	-0.1	3	0.0	26
79.808	256.6	1.00	2	5	0.0	3	0.3	26
79.827	257.4	1.02	2	6	-0.1	3	0.3	26
79.852	257.5	1.13	2	5	+0.1	3	0.3	26
79.582	257.4	1.00	4n		0.2			26-Inch

B 1001 20 56.2 -31 46

78.792	136.8	0.11	2	6	+0.7	1		60
78.806	127.9	0.11	2	7	+0.9	1		60
78.808	128.6	0.10	2	7	+0.9	1	0.2	60
78.802	131.1	0.11	3n		0.2			60-Inch

B 1002 20 56.5 -33 40

78.792	334.3	0.64	2	6	+0.7	1	0.4	60	
78.800	327.4	0.56	2	4	+0.6	1	0.3	60	
78.808	332.8	0.58	2	6	+1.0	1	0.4	60	
78.802	331.7	0.59	3n	0.4				60-Inch	

14475 A 400 20 57.5 +40 58

76.613	249.0	1.89	2	5	+0.1	4	0.1	26	
77.757	248.3	1.88	2	5	0.0	3	0.1	26	
77.763	249.5	1.96	2	5	0.0	3	0.1	26	
77.378	248.9	1.91	3n	0.1				26-Inch	

14481 A 1215 20 58.2 +10 38

81.842	197.0	0.52	1	7	0.0	4	1.2	26	
81.867	198.2	0.44	2	7	+0.3	3	1.3	26	
81.886	198.6	0.55	2	6	-0.2	3	1.6	26	
81.865	197.9	0.50	3n	1.4				26-Inch	

14477 BAR 13 20 58.2 +03 56

78.836	87.0	1.48	2	6	0.0	3	0.8	26	
78.839	87.3	1.61	2	5	0.0	3	0.8	26	
79.718	85.1	1.75	2	5	+0.1	3	1.0	26	
79.131	86.5	1.61	3n	0.9				26-Inch	

14504 STF 2741 20 58.5 +50 27

80.659	26.1	1.98	2	8	-0.2	3	0.5	26	
80.769	26.6	1.99	2	6	-0.2	3	1.3	26	
80.851	29.3	1.88	2	5	-0.1	3	1.3	26	
81.650	28.2	1.99	2	5	-0.2	3	1.2	26	
80.982	27.6	1.96	4n	1.1				26-Inch	

B 1003 20 58.8 -62 34

84.773	141.5	0.28	2	5	+0.4	3	0.3	60	
84.782	142.2	0.46	2	7	+0.5	3	0.8	60	
84.784	141.8	0.32	2	5	+0.5	3	0.5	60	
84.780	141.8	0.35	3n	0.5				60-Inch	

14499 STF 2737 AB 20 59.1 +04 18

79.887	288.4	1.03	2	7	-0.1	3	0.5	26	
79.890	289.0	0.97	2	7	0.0	3	0.3	26	
80.654	287.9	0.94	2	6	0.0	3	0.3	26	
80.657	287.2	0.96	2	6	0.0	3	0.5	26	
84.648	286.4	0.99	2	5	0.0	3	0.2	26	
84.853	286.2	0.94	2	6	0.0	3	0.4	26	
84.872	285.5	1.19	2	5	-0.1	3	0.2	26	
87.788	285.0	0.91	2	5	0.0	3	0.2	26	
87.804	284.6	0.94	2	4	0.0	3	0.4	26	
87.807	288.3	0.94	2	7	0.0	3	0.3	26	
87.840	284.8	0.97	2	6	0.0	3	0.3	26	
80.272	288.1	0.98	4n	0.4				26-Inch	
84.791	286.0	1.04	3n	0.3				26-Inch	
87.810	285.7	0.94	4n	0.3				26-Inch	

van den Bos, 1933: +2.3, -0.08;
+0.4, -0.01; +0.2, -0.08.

14492 HU 83 20 59.1 -13 13

78.773	42.9	0.25	2	6	+0.8	2		36	
78.781	34.1	0.20	2	7	+0.7	1	0.2	36	
78.784	37.7	0.22	2	7	+0.5	1	0.1	36	
84.795	43.9	0.18	2	7	+0.5	4	0.0	36	
84.798	49.2	0.16	2	8	+0.1	4	0.0	36	
84.801	37.8	0.21	2	7	+0.1	4	0.0	36	
78.779	38.2	0.22	3n	0.0				36-Inch	
84.798	43.6	0.18	3n	0.0				36-Inch	

Heintz, 1965: +0.9, +0.01; -5.6, -0.04.

14512 HU 764 20 59.4 +36 25

80.769	201.0	0.35	2	5	-0.1	3	1.2	26	
80.851	195.8	0.31	2	5	+0.2	3	0.9	26	
81.653	199.5	0.33	2	7	+0.1	3	1.2	26	
81.787	199.0	0.31	2	7	0.0	4	1.4	26	
81.265	198.8	0.32	4n	1.2				26-Inch	

I 669 20 59.6 -52 11

84.776	55.5	0.31	2	6	+0.5	3	0.2	60	
84.782	55.9	0.35	2	7	+0.6	3	0.3	60	
84.784	56.3	0.33	2	5	+0.5	3	0.5	60	
84.781	55.9	0.33	3n	0.3				60-Inch	

14524 ES 1166 20 59.7 +46 58

79.827	116.0	1.75	2	5	-0.1	3	0.2	26	
79.833	114.5	1.60	2	7	-0.1	4	0.3	26	
79.846	116.1	1.61	2	7	0.0	3	0.8	26	
79.835	115.5	1.65	3n	0.4				26-Inch	

14540 BU 472 20 59.8 +61 52

79.871	14.0	0.76	1	4	+0.1	3	0.5	26	
80.657	12.2	0.76	2	6	-0.1	3	0.2	26	
80.659	15.7	0.81	2	8	0.0	3	0.0	26	
80.396	14.0	0.78	3n	0.2				26-Inch	

I 1432 21 00.0 -51 11

84.776	272.7	0.32	2	5	+0.6	3		60	
84.782	268.5	0.28	2	7	+0.7	3	1.0	60	
84.787	267.9	0.26	2	6	+0.6	3	0.2	60	
84.782	269.7	0.29	3n	0.6				60-Inch	

14533 BU 1329 21 00.5 +34 10

78.529	220.9	0.28	2	5	+0.1	3	0.1	26	
78.551	224.1	0.32	2	7	0.0	3	0.1	26	
78.644	230.1	0.31	2	6	0.0	3	0.1	26	
78.575	225.0	0.30	3n	0.1				26-Inch	

14538 A 176 21 00.8 +20 56

81.787	345.0	0.27	2	7	0.0	4	0.1	26
81.807	345.8	0.24	2	5	0.0	4	0.0	26
81.826	342.3	0.28	2	6	0.0	4	0.1	26
81.807	344.4	0.26	3n		0.1			26-Inch

14543 A 1438 21 01.0 +40 00

76.703	61.4	0.27	2	7	0.0	3	0.2	26
76.728	65.5	0.25	2	8	0.0	3	0.1	26
77.763	72.2	0.28	2	6	0.0	3	0.2	26
83.857	68.6	0.24	2	7	-0.1	3	0.0	26
85.589	72.8	0.28	2	5	0.0	3	0.1	26
86.767	67.2	0.26	2	7	-0.1	3	0.3	26
77.065	66.4	0.27	3n		0.2			26-Inch
85.404	69.5	0.26	3n		0.1			26-Inch

14558 STF 2746 21 01.8 +39 16

83.857	315.4	1.13	2	7	0.0	3	0.6	26
84.872	315.8	1.02	2	5	0.0	3	0.3	26
85.589	317.2	1.23	2	5	+0.1	3	0.6	26
84.773	316.1	1.13	3n		0.5			26-Inch

COU 128 21 01.9 +23 40

84.872	132.5	0.20	2	5	0.0	3	0.0	26
86.690	135.0	0.14	2	6	0.0	3		26
86.767	134.5	0.21	2	6	-0.1	3		26
86.788	136.6	0.19	2	6	0.0	3		26
86.279	134.6	0.18	4n		0.0			26-Inch

14551 HO 148 21 02.0 +03 46

78.737	200.5	2.33	1	4	+0.1	3	3.5	26
78.836	205.9	2.18	2	5	0.0	3	3.3	26
78.839	201.0	2.21	1	6	0.0	3	3.4	26
78.804	202.5	2.24	3n		3.4			26-Inch

14555 A 1688 21 02.1 +14 27

79.718	50.6	0.25	2	5	0.0	3	0.4	26
81.886	63.3	0.26	2	5	+0.2	3	0.3	26
81.897	49.2	0.27	2	6	+0.2	3	0.6	26
81.167	54.4	0.26	3n		0.4			26-Inch

14553 A 1687 21 02.1 +14 24

81.842	189.7	0.68	2	7	0.0	4	0.2	26
81.867	190.2	0.82	2	7	+0.3	3	0.2	26
81.886	187.8	0.77	2	5	+0.3	3	0.4	26
81.865	189.2	0.76	3n		0.3			26-Inch

14570 BU 69 21 02.6 +21 42

80.659	341.3	0.60	2	7	+0.1	3	0.8	26
80.676	340.1	0.59	1	6	0.0	4	0.8	26
80.720	338.9	0.61	2	5	0.0	3	0.7	26
80.769	340.7	0.57	1	5	0.0	3		26
80.706	340.2	0.59	4n		0.8			26-Inch

14573 STF 2744 21 03.1 +01 32

80.654	127.2	1.36	2	5	0.0	3	0.5	26
80.657	127.5	1.34	2	6	0.0	3	0.8	26
80.659	127.7	1.36	2	8	0.0	3	0.5	26
86.712	126.5	1.38	2	5	0.0	3	0.6	26
86.767	125.3	1.44	2	6	0.0	3	0.6	26
86.788	123.7	1.30	2	5	0.0	3	0.6	26
86.802	124.5	1.47	2	6	-0.1	3	0.5	26
80.657	127.5	1.35	3n		0.6			26-Inch
86.767	125.0	1.40	4n		0.6			26-Inch

Hopmann, 1960: +1.0, -0.08; +1.4, -0.03.

14589 HO 281 21 03.5 +24 00

86.849	303.5	13.95	2	7	-0.1	3	6.0	26
86.892	303.2	13.75	2	7	+0.3	3	6.0	26
86.870	303.4	13.85	2n		6.0			26-Inch

Probably optical.

14597 STT 427 21 03.7 +31 04

87.788	146.9	4.04	2	5	0.0	3	4.2	26
87.807	152.1	4.22	2	6	0.0	3	4.0	26
87.840	151.6	4.15	2	6	+0.1	3	4.0	26
87.812	150.2	4.14	3n		4.1			26-Inch

14584 SEE 436 21 03.8 -24 19

78.792	303.2	0.13	1	7	+0.7	1	0.3	60
78.803	303.0	0.14	2	6	+0.5	1		60
78.798	303.1	0.14	2n		0.3			60-Inch

14588 BU 1211 21 04.0 -18 06

84.795	340.0	0.80	2	7	+0.6	4	0.8	36
84.798	336.4	0.81	2	8	+0.1	4	1.0	36
84.801	339.8	0.89	1	8	+0.2	4	0.6	36
84.798	338.7	0.83	3n		0.8			36-Inch

14615 STF 2757 21 04.5 +52 24

79.808	264.8	2.09	2	5	0.0	3	1.4	26
79.827	266.5	2.03	2	4	0.0	3	0.9	26
79.833	264.7	1.88	2	7	0.0	4	1.4	26
79.846	262.9	2.01	2	5	0.0	3	1.5	26
79.828	264.7	2.00	4n		1.3			26-Inch

14614 ES 1168 21 04.6 +45 41

79.827	119.2	1.54	2	5	0.0	3	0.4	26
79.833	120.2	1.45	2	7	0.0	4	0.5	26
79.846	120.4	1.47	2	7	0.0	3	0.7	26
79.835	119.9	1.49	3n	0.5			26-Inch	

RST 1081 21 04.6 -56 20

84.787	37.2	0.13	2	6	+0.6	3		60
84.790	32.5	0.12	3	7	+1.1	3		60
84.793	35.0	0.13	2	7	+0.6	3	0.0	60
84.790	34.9	0.13	3n	0.0			60-Inch	

14602 SE 3 BC 21 04.7 +03 32

79.887	54.3	0.36	2	7	0.0	3	0.5	26
79.890	59.1	0.31	2	7	+0.1	3	0.2	26
80.654	61.3	0.33	2	6	+0.1	3	0.2	26
80.657	65.2	0.33	2	6	+0.1	3	0.2	26
80.272	60.0	0.33	4n	0.3			26-Inch	

Baize, 1981: +5.6, -0.08.

14610 A 1690 BC 21 05.0 +12 43

81.842	120.4	0.41	2	7	0.0	4	0.3	26
81.867	116.4	0.46	2	7	+0.3	3	0.6	26
81.886	116.0	0.48	2	5	+0.2	3	0.6	26
81.897	122.6	0.50	2	5	+0.3	3	0.5	26
81.873	118.8	0.46	4n	0.5			26-Inch	

14626 BU 680 21 05.5 +53 40

79.808	288.6	0.50	2	4	+0.1	3	0.5	26
79.827	284.6	0.61	2	3	0.0	3	0.5	26
79.833	290.3	0.60	2	7	0.0	4	0.4	26
79.846	287.7	0.68	2	7	0.0	3	0.3	26
79.828	287.8	0.60	4n	0.4			26-Inch	

I 1433 21 05.6 -51 50

84.773	41.5	0.72	2	6	+0.5	3	0.2	60
84.776	45.7	0.53	2	5	+0.6	3	0.3	60
84.784	41.6	0.67	2	5	+0.7	3	0.1	60
84.778	42.9	0.64	3n	0.2			60-Inch	

14623 A 178 21 05.9 +21 18

78.680	67.6	0.96	2	4	+0.1	3	1.2	26
78.737	66.8	1.06	2	4	+0.1	3	0.8	26
78.836	69.1	0.95	2	5	0.0	3	1.0	26
78.751	67.8	0.99	3n	1.0			26-Inch	

14640 HU 364 21 06.9 +23 06

76.728	89.0	0.24	2	7	+0.1	3	0.2	26
78.836	88.9	0.17	2	5	+0.1	3		26
78.839	93.4	0.22	2	6	0.0	3	0.3	26
78.134	90.4	0.21	3n	0.2			26-Inch	

14662 ES 1452 21 07.1 +43 22

79.852	25.2	2.38	2	5	0.0	3	1.7	26
80.676	21.0	2.33	2	7	0.0	4	1.0	26
80.720	20.7	2.29	2	5	0.0	3	1.2	26
80.416	22.3	2.33	3n	1.3			26-Inch	

HEI 79 21 07.2 +14 34

86.808	296.6	1.83	2	7	0.0	3	0.1	26
86.849	292.8	1.89	2	7	0.0	3	0.3	26
86.892	293.1	1.78	2	7	+0.3	3	0.2	26
86.850	294.2	1.83	3n	0.2			26-Inch	

14648 BU 368 21 07.5 -08 14

77.746	277.6	0.25	2	6	+0.1	3	0.3	26
77.763	279.5	0.29	2	4	+0.1	3	0.2	26
78.644	278.4	0.19	2	6	0.0	3	0.3	26
78.781	267.7	0.22	2	7	+0.7	1	0.3	36
78.784	269.1	0.26	2	8	+0.5	1	0.3	36
78.789	271.5	0.23	2	8	+0.3	1	0.3	36
78.051	278.5	0.24	3n	0.3			26-Inch	
78.785	269.4	0.24	3n	0.3			36-Inch	

Baize, 1985: +6.5, -0.05; -2.6, -0.04.

14666 STT 527 21 08.0 +05 09

77.746	149.3	0.18	2	6	+0.2	3	0.5	26
78.803	155.7	0.10	1	6	+0.5	1		60
78.806	153.2	0.15	2	7	+0.5	1	0.5	60
78.808	155.2	0.15	1	5	+0.9	1	0.5	60
78.839	145.8	0.17	3	6	+0.1	3		26
79.797	144.6	0.20	2	7	-0.1	4	0.5	26
79.885	147.3	0.19	2	8	0.0	3	0.5	26
86.767	128.5	0.23	2	7	0.0	3		26
86.802	130.7	0.19	2	6	-0.1	3		26
86.808	130.1	0.22	2	6	0.0	3		26
86.830	134.6	0.22	2	7	+0.1	3	0.4	26
78.806	154.7	0.13	3n	0.5			60-Inch	
79.067	146.8	0.18	4n	0.5			26-Inch	
86.802	131.0	0.22	4n	0.4			26-Inch	

Heintz, 1976: +16.0, -0.02; +9.2, +0.04; +33.4, +0.11.
Speckle confirms the above measures. The orbit fails.

14679 I 1435 21 09.1 -24 47

78.770	49.2	0.39	2	5	+0.3	1	0.3	36
78.773	49.1	0.38	2	5	+0.8	2	0.3	36
78.781	47.1	0.38	2	7	+1.0	1	0.4	36
78.775	48.5	0.38	3n	0.3			36-Inch	

COU 1333 21 09.3 +31 30

85.644	250.5	0.69	2	4	0.0	3	0.3	26
86.690	246.6	0.67	2	7	0.0	3	0.2	26
86.709	253.1	0.68	2	5	-0.2	3	0.3	26
86.348	250.1	0.68	3n	0.3			26-Inch	

14713 A 2287 21 11.1 +01 01

75.884	243.6	0.10	2	8	+0.3	4	0.1	26
75.884	243.6	0.10	1n				26-Inch		

This is the only measure since 1957. Uncertain.

14739 DOO 16 21 11.2 +56 21

79.852	31.6	1.15	2	5	0.0	3	0.7	26
79.871	32.3	1.26	2	4	0.0	3	0.4	26
79.885	28.3	1.09	2	8	+0.1	3	0.2	26
79.890	30.7	1.07	2	7	+0.1	3	0.4	26
79.874	30.7	1.14	4n	0.4			26-Inch		

HU 1626 21 11.4 -52 21

78.776	145.0	1.28	2	4	+0.6	1	0.6	36
78.784	140.2	1.36	2	7	+0.9	1	1.3	36
78.789	140.9	1.31	2	8	+1.0	1	1.0	36
78.783	142.0	1.32	3n	1.0			36-Inch		

BRT 2189 21 11.9 +07 10

86.709	284.2	5.49	2	5	0.0	3	1.4	26
86.712	285.0	5.96	2	5	0.0	3	1.2	26
86.788	282.2	5.86	2	6	0.0	3	0.8	26
86.736	283.8	5.77	3n	1.1			26-Inch		

Optical.

14746 ES 1272 21 12.2 +45 49

85.589	55.1	3.85	2	5	0.0	3	0.4	26
86.802	55.2	3.80	2	6	0.0	3	0.4	26
86.808	53.8	3.73	2	6	0.0	3	0.3	26
86.400	54.7	3.79	3n	0.4			26-Inch		

14748 HO 152 21 12.5 +28 21

81.842	82.6	0.16	2	7	0.0	4		26
83.854	85.4	0.12	2	7	-0.1	3		26
83.893	95.0	0.18	2	7	+0.5	3	0.0	26
83.196	87.7	0.15	3n	0.0			26-Inch		

Baize, 1981: -5.3, -0.02.

FIN 280 21 12.7 -72 59

78.784	57.1	2.51	2	7	+1.0	1	4.0	36
78.787	53.7	2.56	2	4	+0.8		4.2	36
78.789	54.3	2.26	2	8	+1.0	1	2.8	36
78.787	55.0	2.44	3n	3.7			36-Inch		

14759 BU 270 21 13.4 +07 13

79.885	358.8	0.63	1	8	+0.2	3	1.8	26
79.887	357.9	0.70	1	7	0.0	3	2.0	26
79.890	0.4	0.50	2	7	+0.1	3	1.8	26
79.915	359.0	0.59	1	4	+0.2	3	2.0	26
79.894	359.0	0.60	4n	1.9			26-Inch		

Heintz, 1979: +4.3, +0.04.

14783 H 48 21 13.7 +64 25

81.653	256.0	0.47	2	6	+0.1	3	0.2	26
81.692	255.6	0.50	2	5	-0.1	3	0.2	26
81.785	255.6	0.45	2	4	0.0	3		26
81.787	256.3	0.49	2	6	-0.1	4		26
86.802	261.2	0.35	2	6	0.0	3		26
86.808	258.9	0.38	2	6	0.0	3	0.0	26
86.824	260.5	0.35	2	5	0.0	3		26
86.830	259.3	0.35	2	7	+0.1	3	0.2	26
81.729	255.9	0.48	4n	0.2			26-Inch		
86.816	260.0	0.36	4n	0.1			26-Inch		

Baize, 1984: +1.6, -0.06; +2.6, -0.05.

14784 STF 2783 21 14.1 +58 18

81.653	7.9	0.82	2	7	+0.2	3	0.2	26
81.692	11.2	0.79	2	4	0.0	3		26
81.785	10.6	0.70	2	4	+0.1	3	0.2	26
81.787	8.7	0.86	2	6	-0.1	4	0.0	26
86.802	7.5	0.71	1	5	0.0	3		26
86.808	8.5	0.71	2	6	+0.1	3	0.0	26
86.824	5.8	0.75	2	6	0.0	3	0.0	26
86.830	5.9	0.85	2	7	+0.2	3	0.2	26
81.729	9.6	0.79	4n	0.1			26-Inch		
86.816	6.9	0.76	4n	0.1			26-Inch		

14773 STT 535 21 14.5 +10 01

77.757	23.5	0.35	2	4	-0.1	3	0.0	26
77.763	27.0	0.30	1	6	-0.1	3	0.3	26
78.529	21.5	0.36	2	5	0.0	3	0.5	26
78.551	23.8	0.31	2	7	0.0	3	0.1	26
78.150	24.0	0.33	4n		0.2			26-Inch

Tokovinen, 1984: -0.5, 0.00.

14775 A 883 21 14.6 -00 50

78.781	73.9	0.14	2	7	+0.7	1	0.0	36
78.784	71.7	0.15	2	7	+0.5	1		36
78.789	76.7	0.15	2	7	+0.3	1	0.0	36
78.785	74.1	0.15	3n		0.0			36-Inch

Heintz, 1984: -1.7, 0.00.

LEO 49 21 14.7 -18 58

78.781	281.1	1.25	2	7	+0.8	1	0.5	36
78.784	280.9	1.42	2	7	+0.6	1	0.5	36
78.782	281.0	1.34	2n		0.5			36-Inch

14787 AGC 13 21 14.8 +38 02

77.746	156.7	1.04	1	6	+0.1	3	2.6	26
78.836	146.4	0.81	1	5	+0.1	3	2.6	26
78.839	150.8	0.87	1	5	+0.1	3	2.5	26
79.718	142.0	0.86	2	5	0.0	3	2.5	26
79.797	138.0	0.87	2	7	-0.1	4	2.2	26
79.830	136.2	0.89	3	5	-0.1	3	2.2	26
79.833	142.9	0.85	2	6	0.0	4	2.4	26
80.654	140.0	0.90	1	5	0.0	3	2.5	26
80.657	133.8	0.73	3	6	+0.1	3	2.5	26
80.659	137.5	0.86	3	8	0.0	3	2.2	26
80.676	131.9	0.81	2	6	0.0	4	2.5	26
80.720	135.0	0.80	4	5	-0.1	3	2.6	26
81.653	125.7	0.61	3	6	0.0	3	2.2	26
81.787	126.8	0.75	2	6	+0.1	4	2.5	26
81.842	126.9	0.76	3	7	0.0	4	2.7	26
81.864	131.9	0.54	3	5	0.0	3	2.5	26
81.897	125.6	0.60	3	8	-0.3	3	2.5	26
83.854	103.8	0.65	2	6	0.0	3	2.2	26
83.857	105.5	0.46	3	7	0.0	3	2.2	26
78.474	151.3	0.91	3n		2.6			26-Inch
79.794	139.8	0.87	4n		2.3			26-Inch
80.673	135.6	0.82	5n		2.5			26-Inch
81.809	127.4	0.65	5n		2.5			26-Inch
83.856	104.6	0.56	2n		2.2			26-Inch

Van Biesbroeck, 1940: +0.5, +0.06;
-4.0, +0.08; -3.0, +0.07;
-3.5, -0.04; -8.1, -0.02.
Heintz (1970) gives worse residuals.

14798 A 1692 21 15.2 +55 31

81.653	154.2	0.30	2	6	+0.2	3	0.4	26
81.787	157.2	0.31	2	6	0.0	4	0.4	26
81.807	153.6	0.24	2	4	0.0	4		26
81.826	153.8	0.31	2	6	-0.2	4	0.5	26
81.768	154.7	0.29	4n		0.4			26-Inch

14797 HO 284 21 15.9 +16 00

84.872	88.2	3.70	2	5	0.0	3	0.6	26
86.657	88.2	3.90	2	4	0.0	3	0.4	26
86.690	87.6	3.89	2	7	0.0	3	0.3	26
86.073	88.0	3.83	3n		0.4			26-Inch

14808 HU 961 21 16.7 +14 59

87.788	13.7	2.07	2	5	+0.1	3	0.8	26
87.807	13.9	1.95	2	6	-0.1	3	0.2	26
87.840	14.3	2.05	2	6	+0.1	3	0.5	26
87.812	14.0	2.02	3n		0.5			26-Inch

14824 A 401 21 17.1 +43 12

79.830	318.4	0.37	2	5	-0.1	3	0.1	26
79.833	321.4	0.42	2	7	-0.1	4	0.0	26
79.846	321.6	0.39	2	6	0.0	3	0.1	26
79.836	320.5	0.39	3n		0.1			26-Inch

14822 BU 162 21 17.1 +35 46

76.703	250.7	1.19	2	6	+0.1	3	0.3	26
76.728	251.4	1.26	2	8	+0.2	3	0.2	26
77.631	252.0	1.15	2	5	0.0	3	0.2	26
77.021	251.4	1.20	3n		0.2			26-Inch

FIN 281 21 17.6 -71 21

78.776	269.5	2.94	2	4	+1.4	1	3.2	36
78.784	266.1	3.00	2	7	+1.0	1	3.4	36
78.787	268.9	3.07	4	4	+0.8	1	3.0	36
78.782	268.2	3.00	3n		3.2			36-Inch

COU 1183 21 18.0 +30 49

86.849	14.6	0.20	2	8	-0.1	3		26
86.884	14.0	0.18	2	6	0.0	3		26
86.892	17.8	0.20	2	7	0.0	3		26
86.875	15.5	0.19	3n					26-Inch

14839 BU 163 21 18.6 +11 34

77.746	254.1	0.45	2	6	+0.1	3	1.8	26
78.551	255.4	0.42	2	6	0.0	3	1.8	26
78.644	259.3	0.38	2	6	0.0	3	1.4	26
78.836	254.4	0.31	2	5	+0.1	3	1.8	26
79.718	252.1	0.36	2	5	+0.1	3	1.2	26
79.797	258.9	0.30	2	7	-0.1	3	1.0	26
79.830	252.0	0.34	2	5	+0.1	3	1.0	26
79.833	254.5	0.34	2	6	0.0	4	1.2	26
80.659	259.0	0.35	1	8	0.0	3	1.5	26
80.892	254.1	0.33	2	5	0.0	3	2.0	26
81.842	247.7	0.25	2	6	0.0	4	1.8	26
81.864	250.6	0.38	2	5	0.0	3	1.8	26
81.886	250.8	0.34	2	6	-0.2	3	1.6	26
81.897	247.7	0.28	2	7	-0.2	3	1.8	26

78.447	255.8	0.39	4n	1.7	26-Inch
79.794	254.4	0.34	4n	1.1	26-Inch
81.507	251.6	0.32	6n	1.8	26-Inch

Heintz, 1969: +6.5, -0.04; +6.0, -0.03; +4.9, +0.05.

14873 A 1694 21 19.7 +54 55

79.830	91.5	0.71	2	5	0.0	3	1.4	26
79.846	90.0	0.91	2	7	0.0	3	1.5	26
79.852	97.0	0.82	2	5	0.0	3	1.2	26
79.885	89.4	0.84	2	8	0.0	3	1.2	26

79.853	92.0	0.82	4n	1.3	26-Inch

14852 BU 252 21 20.1 -27 19

78.800	269.6	2.32	2	4	+0.6	1	0.1	60
78.803	272.6	2.40	2	6	+0.4	1	0.3	60
78.808	271.1	2.37	2	7	+0.8	1	0.2	60

78.804	271.1	2.36	3n	0.2	60-Inch

14880 BU 838 21 20.9 +03 07

84.853	138.2	1.54	2	6	0.0	3	1.2	26
84.872	137.3	1.57	2	5	0.0	3	0.8	26
85.589	139.7	1.62	2	6	0.0	3	1.2	26

85.105	138.4	1.58	3n	1.1	26-Inch

14875 FIN 6 21 21.1 -29 14

78.770	218.3	1.31	2	5	+0.3	1	0.6	36
78.784	217.3	1.32	2	7	+0.6	1	0.5	36
78.787	214.7	1.18	2	4	+1.0	1	0.7	36

78.780	216.8	1.27	3n	0.6	36-Inch

14893 A 617 21 21.4 +10 20

81.902	99.2	0.18	2	5	0.0	4		26
81.924	98.4	0.17	2	8	+0.5	4		26

81.913	98.8	0.17	2n		26-Inch

Tokovinen, 1987: +0.8, 0.00.

14926 A 764 21 22.3 +57 34

79.808	1.4	1.29	1	4	-0.2	3	2.0	26
79.846	1.8	0.95	1	6	0.0	3	1.5	26
79.852	3.2	1.01	3	4	0.0	3	1.7	26
79.871	3.7	1.08	2	4	0.0	3	2.0	26
86.824	3.6	0.98	2	5	0.0	3	1.3	26
86.830	0.8	1.10	4	7	0.0	3	1.5	26
86.849	1.6	1.31	2	7	0.0	3	1.5	26
86.884	9.7	1.12	4	7	+0.1	3	1.8	26

79.844	2.5	1.08	4n	1.8	26-Inch
86.847	3.9	1.13	4n	1.5	26-Inch

Baize, 1981: +0.9, +0.15; -2.8, +0.18.

14944 A 765 21 23.8 +47 10

86.849	28.8	0.47	2	7	0.0	3	0.8	26
86.884	24.8	0.40	2	7	0.0	3	0.7	26
86.892	26.6	0.41	2	7	-0.3	3	1.2	26

86.875	26.7	0.43	3n	0.9	26-Inch

14942 A 2288 21 24.3 +03 43

81.842	265.8	0.39	2	6	0.0	4	0.3	26
81.864	267.0	0.37	2	5	0.0	3		26
81.867	269.7	0.36	2	6	+0.1	4	0.2	26
81.886	266.5	0.35	2	6	0.0	3	0.3	26

81.865	267.2	0.37	4n	0.3	26-Inch

Couteau, 1963: +6.4, +0.03.

BU 766 21 24.4 -41 00

78.792	259.6	0.40	2	7	+0.5	1	0.5	60
78.800	256.1	0.31	2	4	+0.3	1	0.5	60
78.803	256.4	0.26	2	6	+0.5	1	0.6	60

78.798	257.4	0.32	3n	0.5	60-Inch

14954 BU 164 21 25.1 +09 23

78.836	212.0	0.18	2	5	+0.1	3	0.5	26
78.839	220.9	0.22	2	5	0.0	3	0.3	26
78.718	215.3	0.26	2	5	-0.1	3	0.4	26
79.797	223.2	0.23	2	6	-0.2	4		26
80.659	219.8	0.23	2	8	0.0	3	0.3	26
80.676	220.0	0.19	2	5	0.0	4	0.5	26
80.720	213.2	0.23	2	5	-0.2	3	0.5	26
80.892	212.6	0.22	2	4	0.0	3		26
83.857	213.3	0.15	2	7	0.0	3	0.6	26
83.893	210.5	0.16	2	6	+0.6	3		26
84.713	214.4	0.15	2	7	0.0	3		26

79.048	217.8	0.22	4n	0.4	26-Inch
80.737	216.4	0.22	4n	0.4	26-Inch
84.154	212.7	0.15	3n	0.6	26-Inch

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

	B 1007		21 27.3 -32 18					
78.792	208.4	0.13	2	7	+0.6	1	0.2	60
78.803	213.4	0.12	2	6	+0.6	1		60
78.806	214.7	0.10	2	7	+0.5	1		60
84.773	225.4	0.12	2	6	+0.6	3		60
84.782	221.6	0.12	2	8	+0.5	3		60
84.787	222.4	0.14	2	7	+0.4	3		60
78.800	212.2	0.12	3n		0.2			60-Inch
84.781	223.1	0.13	3n					60-Inch

Heintz, 1978: +2.3, 0.00; -18.2, +0.01.

	HWE 90		21 27.3 -32 22					
78.770	285.5	1.47	2	6	+0.6	1	0.8	36
78.784	282.5	1.40	2	7	+1.0	1	1.0	36
78.787	283.8	1.39	2	5	+0.4	1	0.5	36
78.780	283.9	1.42	3n		0.8			36-Inch

15000	HO 160		21 28.0 +43 04					
77.757	182.8	2.05	2	4	-0.1	3	0.6	26
77.763	182.4	1.92	2	5	0.0	3	0.6	26
78.529	181.0	1.96	2	5	0.0	3	0.6	26
78.016	182.1	1.98	3n		0.6			26-Inch

	HU 1629		21 28.3 -51 52					
78.800	250.4	1.22	2	4	+0.3	1	0.4	60
78.803	251.5	1.32	2	6	+0.8	1	0.3	60
78.808	251.5	1.31	2	4	+1.0	1	0.2	60
78.804	251.1	1.28	3n		0.3			60-Inch

15005	HU 490		21 28.8 +18 10					
81.867	282.9	0.40	2	6	+0.1	4	2.0	26
81.886	273.4	0.44	2	5	+0.1	3	1.2	26
81.897	285.1	0.35	2	5	0.0	3	1.5	26
81.883	280.5	0.40	3n		1.6			26-Inch

15007	STF 2799		21 28.9 +11 05					
81.902	89.8	1.69	2	5	0.0	4	0.1	26
83.857	90.3	1.87	2	7	0.0	3	0.0	26
83.893	90.0	1.79	2	7	+0.5	3	0.1	26
86.690	87.6	1.72	2	7	-0.1	3	0.1	26
86.709	89.2	1.73	2	5	-0.5	3	0.1	26
86.712	88.8	1.69	2	4	-0.2	3	0.0	26
83.217	90.0	1.78	3n		0.1			26-Inch
86.704	88.5	1.71	3n		0.1			26-Inch

Popovic, 1986: +2.6, +0.10; +2.3, +0.02.

	COU 535		21 29.7 +17 18					
86.690	26.4	0.65	2	7	0.0	3		26
86.767	27.4	0.72	2	7	-0.1	3	0.2	26
86.884	29.5	0.70	2	7	+0.1	3	0.0	26
86.780	27.8	0.69	3n		0.1			26-Inch

15026	BU 684		21 30.2 -05 30					
79.718	312.3	1.08	2	5	0.0	3	0.5	26
79.797	313.9	1.16	2	7	-0.2	4	0.2	26
79.830	312.7	1.14	2	4	0.0	3	0.2	26
79.833	314.7	1.11	2	6	-0.1	4	0.2	26
79.794	313.4	1.11	4n		0.3			26-Inch

15045	STT 441		21 30.6 +42 12					
86.709	326.7	6.29	2	5	-0.1	3	1.6	26
86.788	325.3	6.36	2	7	-0.2	3	3.0	26
86.802	324.9	6.23	2	6	-0.1	3	3.4	26
86.766	325.6	6.29	3n		2.7			26-Inch

15037	A 888		21 30.7 +00 05					
79.718	48.4	0.57	2	5	0.0	3	0.2	26
79.797	53.0	0.65	2	7	-0.1	4	0.1	26
79.830	56.5	0.69	2	5	0.0	3	0.2	26
79.833	53.7	0.52	2	5	0.0	4		26
79.794	52.9	0.61	4n		0.2			26-Inch

15031	OL 76		21 30.8 -22 04					
78.800	346.2	2.79	2	4	+0.5	1	0.2	60
78.803	346.8	2.68	4	6	+0.3	1	0.8	60
78.808	348.0	2.71	1	6	+0.8	1	0.2	60
78.804	347.0	2.73	3n		0.4			60-Inch

	B 1008		21 30.9 -36 33					
78.792	38.8	0.30	2	7	+0.6	1	0.2	60
78.803	41.2	0.26	2	7	+0.6	1	0.2	60
78.806	37.6	0.26	2	8	+0.5	1	0.1	60
78.800	39.2	0.27	3n		0.2			60-Inch

15094	BU 166		21 33.6 +60 20					
86.690	262.8	1.09	2	5	0.0	3	2.7	26
86.767	260.0	1.11	4	6	-0.1	3	2.4	26
86.788	258.3	1.17	2	6	-0.1	3	2.4	26
86.748	260.4	1.12	3n		2.5			26-Inch

15103 STT 442 21 34.0 +61 48

79.797	331.3	0.27	2	7	-0.1	4	0.3	26
79.808	329.5	0.33	2	5	-0.2	3	0.2	26
79.830	327.5	0.30	2	5	0.0	3	0.1	26
79.846	327.4	0.33	2	6	0.0	3	0.2	26
86.690	329.4	0.25	1	6	0.0	3	0.0	26
86.767	320.1	0.26	2	6	-0.1	3	0.0	26
86.788	319.6	0.21	2	6	0.0	3	0.0	26
86.802	320.8	0.24	2	6	-0.2	3		26
79.820	328.9	0.31	4n		0.2			26-Inch
86.762	322.5	0.24	4n		0.0			26-Inch

15109 BU 74 21 35.2 +21 24

86.808	337.6	1.23	2	7	0.0	3	1.5	26
86.824	336.4	1.05	2	5	-0.1	3	2.0	26
86.830	334.8	1.12	2	8	0.0	3	1.8	26
86.849	338.3	1.16	2	7	0.0	3	1.4	26
86.828	336.8	1.14	4n		1.7			26-Inch

15115 HU 371 21 35.4 +24 27

78.529	296.6	0.28	2	6	-0.1	3	0.3	26
78.551	291.6	0.25	2	7	-0.1	3	0.2	26
78.644	294.1	0.25	2	7	-0.1	3	0.2	26
80.657	293.7	0.26	2	7	0.0	3		26
80.659	294.5	0.30	2	8	+0.1	3	0.4	26
80.676	293.2	0.24	2	8	0.0	4	0.3	26
84.716	296.3	0.23	2	5	0.0	3	0.2	26
85.589	300.9	0.28	2	7	0.0	3	0.1	26
86.690	302.3	0.32	2	6	+0.1	3	0.2	26
86.767	297.4	0.30	2	6	0.0	3		26
87.807	299.3	0.34	2	7	-0.1	3	0.2	26
87.840	297.0	0.31	2	5	0.0	3		26
87.865	298.7	0.30	2	5	0.0	3		26
87.882	298.4	0.28	2	4	0.0	3		26
78.575	294.1	0.26	3n		0.2			26-Inch
80.664	293.8	0.27	3n		0.4			26-Inch
85.940	299.2	0.28	4n		0.2			26-Inch
87.848	298.4	0.31	4n		0.2			26-Inch

Baize, 1961: +0.5, -0.04; -1.7, -0.03;
-1.1, -0.03; -3.7, 0.00.

15131 HO 463 21 36.2 +42 53

81.902	180.3	0.40	2	5	0.0	4	0.2	26
83.857	177.8	0.41	2	7	0.0	3	0.6	26
84.713	177.8	0.52	2	6	0.0	3	0.3	26
83.491	178.6	0.44	3n		0.4			26-Inch

I 1444 21 36.4 -40 41

84.784	193.9	0.32	2	6	+0.5	3	0.1	60
84.787	198.4	0.28	2	7	+0.4	3	0.2	60
84.790	198.4	0.30	2	8	+0.7	3	0.2	60
84.787	196.9	0.30	3n		0.2			60-Inch

15156 HU 372 21 38.4 +23 36

80.657	219.6	0.25	2	7	0.0	3	0.3	26
80.676	220.1	0.27	2	7	+0.1	4	0.0	26
80.890	225.4	0.24	2	5	-0.2	3		26
80.892	214.0	0.26	2	5	-0.1	3	0.3	26
80.779	219.8	0.26	4n		0.2			26-Inch

15163 HL 21 39.0 -15 27

78.773	112.9	1.63	2	5	+0.5	1	2.4	36
78.781	111.2	1.69	4	7	+0.7	1	2.8	36
78.777	112.0	1.66	2n		2.6			36-Inch

15177 STT 445 21 39.3 +20 43

77.760	121.0	1.03	2	5	0.0	3	0.1	26
77.763	117.2	1.05	2	5	0.0	3	0.2	26
78.529	117.4	0.93	2	4	0.0	3	0.4	26
78.551	119.4	0.98	2	6	0.0	3		26
87.788	118.4	0.91	2	4	-0.1	3		26
87.807	119.0	1.09	2	6	-0.1	3	0.0	26
87.840	116.2	0.92	2	5	0.0	3		26
78.150	118.8	1.00	4n		0.2			26-Inch
87.812	117.9	0.97	3n		0.0			26-Inch

15182 A 772 21 39.5 +30 09

79.885	285.1	0.17	2	8	0.0	3	0.4	26
79.887	285.7	0.18	2	6	-0.2	3		26
79.890	284.8	0.18	2	7	-0.2	3	0.4	26
79.923	284.4	0.18	2	8	+0.3	4	0.4	26
79.896	285.0	0.18	4n		0.4			26-Inch

Baize, 1981: +5.1, 0.00.

15176 BU 1212 21 39.5 -00 03

76.728	212.8	0.25	1	7	0.0	3	0.4	26
77.746	230.1	0.26	2	6	-0.1	3	0.4	26
78.551	226.0	0.24	2	6	-0.1	3	0.4	26
78.644	230.1	0.23	2	6	0.0	3	0.4	26
79.885	233.9	0.25	2	8	-0.2	3	0.4	26
79.887	233.0	0.27	2	7	-0.3	3	0.6	26
79.890	234.7	0.28	2	7	-0.3	3	0.3	26
79.923	235.3	0.29	2	8	+0.2	3	0.4	26
81.787	240.1	0.31	2	7	0.0	4	0.3	26
81.826	244.6	0.41	2	5	-0.1	4	0.3	26
81.842	243.0	0.36	2	4	0.0	4		26
81.864	244.1	0.33	2	5	-0.1	3	0.2	26
84.795	250.0	0.32	2	7	+0.6	4	0.4	36
84.798	249.8	0.33	2	8	+0.2	4	0.6	36
84.801	250.7	0.32	2	7	+0.2	4	0.4	36
77.917	224.8	0.24	4n		0.4			26-Inch
79.896	234.2	0.27	4n		0.4			26-Inch
81.830	243.0	0.35	4n		0.3			26-Inch
84.798	250.2	0.32	3n		0.5			36-Inch

Danjon, 1942: +0.7, -0.02; +0.4, -0.03;
+2.2, +0.01; +1.0, -0.08.

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15193 A 1444 21 39.8 +37 49

77.760	269.9	1.09	2	5	+0.2	3	0.0	26	
77.763	270.6	1.13	2	5	-0.1	3	0.2	26	
78.644	272.1	1.17	2	7	+0.1	3	0.0	26	
78.056	270.9	1.13	3n	0.1				26-Inch	

15225 HU 968 21 40.3 +68 23

79.852	150.7	1.34	2	4	-0.2	3	1.2	26	
79.885	149.2	1.26	2	7	+0.1	3	1.4	26	
79.887	151.7	1.27	2	5	-0.2	3	1.4	26	
79.890	149.3	1.41	2	6	0.0	3	1.4	26	
79.878	150.2	1.32	4n	1.4				26-Inch	

15215 STT 448 21 41.0 +29 20

80.887	201.8	0.46	2	4	0.0	3	0.8	26	
80.890	203.3	0.40	2	7	-0.3	3	0.7	26	
80.892	202.7	0.47	2	5	-0.2	3	0.8	26	
86.808	193.3	0.44	2	7	0.0	3	0.6	26	
86.830	197.6	0.36	2	8	0.0	3	0.5	26	
86.884	193.2	0.45	2	7	+0.1	3	1.0	26	
80.890	202.6	0.44	3n	0.8				26-Inch	
86.841	194.7	0.42	3n	0.7				26-Inch	

15235 HU 279 21 42.3 +07 15

86.824	358.1	2.59	1	6	-0.1	3	0.0	26	
86.884	354.6	2.40	2	7	+0.2	3	0.1	26	
86.892	356.1	2.22	1	7	0.0	3	0.0	26	
86.867	356.3	2.40	3n	0.0				26-Inch	

15236 HU 280 21 42.3 +05 54

79.797	300.7	0.18	2	7	-0.1	4	0.0	26	
79.830	305.5	0.23	2	5	-0.1	3	0.1	26	
79.833	309.4	0.15	2	5	-0.1	4	0.3	26	
79.846	301.9	0.21	2	7	0.0	3	0.2	26	
79.826	304.4	0.19	4n	0.2				26-Inch	

Baize, 1987: -3.7, -0.01.

15245 A 180 21 42.9 -02 26

79.846	53.9	0.74	2	6	+0.1	3	0.1	26	
79.852	57.9	0.70	2	4	-0.2	3	0.2	26	
79.885	51.2	0.75	2	8	0.0	3	0.3	26	
79.887	51.4	0.67	2	5	0.0	3	0.1	26	
79.868	53.6	0.72	4n	0.2				26-Inch	

15255 A 1222 21 43.1 +31 48

76.728	353.8	0.67	2	7	+0.1	3	0.1	26	
77.689	354.3	0.64	2	7	+0.2	3	0.1	26	
77.746	354.1	0.61	2	6	0.0	3	0.3	26	
77.388	354.1	0.64	3n	0.2				26-Inch	

15267 HO 166 21 43.9 +27 51

77.593	97.8	0.35	2	4	0.0	3	0.0	26	
77.689	98.4	0.35	2	7	0.0	3	0.2	26	
77.722	94.6	0.34	2	5	+0.4	3	0.2	26	
77.746	98.2	0.30	2	6	0.0	3	0.1	26	
80.657	92.9	0.30	2	7	0.0	3	0.2	26	
80.659	94.6	0.35	2	7	+0.1	3	0.3	26	
80.676	92.8	0.29	2	7	+0.3	4	0.4	26	
80.851	95.1	0.33	2	4	+0.2	3	0.2	26	
84.716	83.2	0.33	2	5	0.0	3	0.3	26	
85.589	82.1	0.30	2	7	0.0	3	0.0	26	
86.690	77.5	0.35	2	6	+0.1	3	0.0	26	
86.788	79.6	0.33	2	5	-0.1	3		26	
77.688	97.2	0.34	4n	0.1				26-Inch	
80.710	93.8	0.32	4n	0.3				26-Inch	
85.946	80.6	0.33	4n	0.1				26-Inch	

Couteau, 1958: -3.9, -0.05; -0.9, -0.07;
-2.1, -0.03.

15274 HU 693 21 44.1 +50 34

81.902	233.9	1.08	2	5	0.0	4	0.3	26	
85.589	231.0	1.02	2	7	0.0	3	1.0	26	
86.690	231.5	1.25	2	6	0.0	3	0.7	26	
86.892	229.1	1.16	2	8	0.0	3	0.6	26	
85.268	231.4	1.13	4n	0.6				26-Inch	

15270 STF 2822 21 44.1 +28 45

77.593	296.7	2.03	2	5	+0.1	3	1.4	26	
77.689	296.4	1.90	2	7	0.0	3	1.0	26	
77.722	295.4	2.01	2	5	+0.3	3	1.2	26	
77.746	294.8	1.97	2	7	0.0	3	1.3	26	
79.797	297.0	2.03	2	7	0.0	4	1.2	26	
79.808	297.9	1.98	2	5	-0.3	3	1.3	26	
79.830	297.7	2.06	2	5	0.0	3	1.3	26	
79.833	297.8	2.08	2	5	0.0	4	1.3	26	
81.692	297.3	2.10	2	4	0.0	3	1.2	26	
81.785	298.1	1.95	2	4	-0.6	3	1.5	26	
81.787	297.0	2.10	2	7	0.0	4	2.0	26	
81.804	299.8	2.19	2	3	0.0	3	2.0	26	
86.808	299.4	2.08	2	8	0.0	3	1.2	26	
86.824	300.1	2.06	2	6	0.0	3	1.2	26	
86.830	299.3	2.10	2	8	0.0	3	1.3	26	
86.849	301.2	2.04	2	7	0.0	3	1.4	26	
77.688	295.8	1.98	4n	1.2				26-Inch	
79.817	297.6	2.04	4n	1.3				26-Inch	
81.767	298.0	2.08	4n	1.7				26-Inch	
86.828	300.0	2.07	4n	1.3				26-Inch	

Docobo, Costa, 1984: +1.5, -0.08;
+2.1, -0.03;
+1.5, +0.01;
+0.8, +0.02.

15279 HU 375 21 45.1 -15 36

84.798	195.2	0.15	1	7	+0.2	4		36	
84.801	195.4	0.13	2	8	+0.2	4	0.0	36	
84.800	195.3	0.14	2n	0.0				36-Inch	

FIN 283 21 46.6 -57 40

78.792	301.9	0.23	2	7	+0.5	1	0.2	60			
78.803	304.4	0.23	2	6	+0.6	1	0.3	60			
78.806	300.6	0.22	2	7	+0.4	1	0.1	60			
78.800	302.3	0.23	3n		0.2				60-Inch		

Finsen, 1977 (1): -4.6, -0.05.
(2): -5.9, -0.05.

15319 HO 608 21 46.8 +27 18

83.857	126.3	0.47	2	6	0.0	3	0.8	26			
85.589	128.3	0.44	2	6	0.0	3	1.0	26			
86.690	127.3	0.70	2	5	+0.1	3	1.2	26			
86.892	126.9	0.52	2	7	+0.1	3	0.6	26			
85.757	127.2	0.53	4n		0.9				26-Inch		

15307 SEE 458 21 46.8 -26 35

78.773	89.7	1.02	2	5	+0.5	1	0.5	36			
78.787	86.7	0.90	2	5	+0.5	1	0.8	36			
78.789	89.5	1.01	2	8	+0.7	1	1.2	36			
78.783	88.6	0.98	3n		0.8				36-Inch		

15313 STF 2825 21 46.9 +00 51

78.836	132.9	0.59	2	5	-0.2	3	0.3	26			
78.839	131.5	0.68	2	6	-0.2	3	0.2	26			
79.797	134.2	0.70	2	7	-0.1	4	0.1	26			
79.157	132.9	0.66	3n		0.2				26-Inch		

15322 HWE 58 AB 21 47.4 -13 09

78.800	87.8	0.68	2	5	+0.5	2	0.8	60			
78.803	89.6	0.66	2	5	+1.2	2	0.9	60			
78.806	87.4	0.71	2	7	+0.6	2	1.5	60			
78.803	88.3	0.68	3n		1.1				60-Inch		

ABXC

78.800	82.0	4.14	2	5	+0.4	1	0.5	60			
78.800	82.0	4.14	1n		0.5				60-Inch		

15330 BAR 15 21 47.7 -01 43

78.781	119.9	0.28	2	6	+0.7	1	0.5	36			
78.784	119.7	0.30	2	6	+0.8	1	0.3	36			
78.789	117.7	0.28	2	8	+0.6	1	0.4	36			
80.657	119.2	0.30	2	7	0.0	3	0.4	26			
80.659	120.8	0.34	2	7	+0.1	3	0.8	26			
80.676	115.2	0.34	2	6	+0.2	4	0.3	26			
78.785	119.1	0.29	3n		0.4				36-Inch		
80.664	118.4	0.33	3n		0.5				26-Inch		

COU 14 21 50.1 +17 18

80.657	357.7	0.18	2	7	+0.1	3	0.7	26			
80.659	5.8	0.16	3	7	+0.2	4	0.8	26			
80.676	359.7	0.17	3	7	0.0	4	1.2	26			
80.928	10.6	0.19	1	7	+0.6	4	1.3	26			
81.826	19.3	0.27	3	5	-0.1	4	1.2	26			
81.864	19.6	0.28	2	5	-0.1	3	1.2	26			
81.867	19.9	0.18	2	6	0.0	4	0.7	26			
81.897	14.5	0.20	2	6	-0.2	3	1.0	26			
83.857	34.5	0.28	2	7	0.0	3	1.2	26			
83.875	32.0	0.28	2	7	+0.2	3	1.5	26			
86.808	52.4	0.34	2	6	0.0	3	1.0	26			
86.824	55.5	0.34	2	6	0.0	3	0.6	26			
86.830	52.1	0.34	2	7	0.0	3	0.6	26			
86.849	50.9	0.35	2	7	0.0	3	1.2	26			
80.730	3.4	0.18	4n		1.0				26-Inch		
81.864	18.3	0.23	4n		1.0				26-Inch		
83.866	33.2	0.28	2n		1.4				26-Inch		
86.828	52.7	0.34	4n		0.9				26-Inch		

Heintz, 1982: +5.5,-0.01;+4.3, 0.00;
+2.5,-0.03.+7.9,-0.04.
Costa,Docobo, 1985: +0.6,-0.01;-0.8, 0.00;
-2.5,-0.04.+2.2,-0.03.
Baize, 1985: -1.5,-0.03;-1.7,-0.04;
-0.9,-0.08.+4.0,-0.09.

15373 HO 467 21 50.6 +22 15

79.808	220.4	2.38	2	5	-0.3	3	2.8	26			
79.830	219.4	2.48	2	5	0.0	3	2.4	26			
79.833	217.2	2.21	2	4	-0.1	4	1.5	26			
79.852	221.2	2.40	2	5	-0.2	3	2.0	26			
79.831	219.3	2.37	4n		2.2				26-Inch		

15368 A 301 21 50.6 -07 47

84.795	124.8	0.81	2	7	+0.5	4	0.2	36			
84.798	127.9	0.85	2	8	+0.3	4	0.2	36			
84.801	126.9	0.86	2	7	+0.2	4	0.1	36			
84.798	126.5	0.84	3n		0.2				36-Inch		

15371 SEE 460 21 50.9 -20 32

78.800	154.1	0.49	1	5	+0.5	1	0.3	60			
78.806	155.6	0.58	2	7	+0.7	1	0.4	60			
78.808	155.3	0.54	2	5	+0.4	1	0.2	60			
78.805	155.0	0.54	3n		0.3				60-Inch		

15398 HU 972 21 51.1 +66 50

81.653	42.1	0.25	2	6	-0.4	3		26			
81.897	35.4	0.26	2	5	0.0	3	0.6	26			
81.902	37.4	0.25	2	5	0.0	4	0.8	26			
81.817	38.3	0.25	3n		0.7				26-Inch		

Baize, 1981: -11.3, +0.04.

	FIN 374			21 53.3 -46 50						
84.787	311.6	0.15	2	7	+0.3	3	0.0	60		
84.790	306.5	0.12	2	7	+0.5	3	0.0	60		
84.793	311.6	0.13	2	7	-0.1	3	0.0	60		
84.790	309.9	0.13	3n		0.0			60-Inch		
15419	HU 380 BC			21 53.8 -20 01						
78.781	282.5	0.28	2	6	+0.7	1	0.0	36		
78.784	286.9	0.31	2	8	+0.8	1	0.2	36		
78.787	286.1	0.27	2	5	+0.4	1		36		
84.776	274.0	0.27	2	6	+0.5	3	0.3	60		
84.782	276.0	0.32	2	7	+0.3	3	0.2	60		
84.784	275.5	0.34	2	5	+0.5	3	0.2	60		
78.784	285.2	0.29	3n		0.1			36-Inch		
84.781	275.2	0.31	3n		0.2			60-Inch		

Baize, 1959: +10.4, -0.03; +10.2, -0.06.

15431	COU 432 BP			21 54.3 +19 43						
79.830	11.2	0.19	3	5	0.0	3	0.0	26		
79.846	3.7	0.13	3	6	0.0	4		26		
79.885	2.3	0.17	2	7	0.0	4		26		
79.923	1.6	0.14	3	8	+0.2	4	0.2	26		
79.871	4.7	0.16	4n		0.1			26-Inch		
15435	A 620			21 54.5 +44 03						
80.890	273.5	0.43	2	3	-0.2	3		26		
80.892	280.2	0.30	2	4	-0.2	3	0.3	26		
81.653	279.2	0.35	2	6	-0.3	3	0.0	26		
81.787	276.8	0.34	2	7	-0.1	4	0.0	26		
81.306	277.4	0.36	4n		0.1			26-Inch		
	HDO 296			21 55.2 -61 53						
78.770	104.7	0.32	2	6	+0.2	1	0.2	36		
78.773	105.9	0.42	2	5	+0.5	1	0.2	36		
78.776	105.1	0.29	2	5	+0.9	1	0.2	36		
84.776	107.9	0.21	2	6	+0.4	3	0.3	60		
84.782	109.6	0.23	2	6	+0.1	3	0.2	60		
84.784	111.5	0.25	2	6	+0.4	3	0.3	60		
78.773	105.2	0.34	3n		0.2			36-Inch		
84.781	109.7	0.23	3n		0.3			60-Inch		

Finsen, 1969: -5.8, -0.01; -7.9, +0.01.

15447	BU 75			21 55.5 +10 53						
76.728	294.8	0.18	2	7	+0.1	4	0.0	26		
77.689	300.8	0.14	3	7	0.0	3	0.0	26		
77.746	307.6	0.22	2	6	0.0	3	0.2	26		
78.551	325.9	0.20	1	6	-0.1	3	0.3	26		
78.836	313.0	0.12	2	5	-0.2	3	0.0	26		
78.839	312.2	0.22	2	6	0.0	3	0.0	26		
79.797	323.4	0.23	2	7	0.0	4	0.3	26		
79.830	327.9	0.25	3	5	+0.1	3	0.2	26		
79.846	329.4	0.22	2	7	0.0	4	0.3	26		
79.885	329.4	0.25	2	7	0.0	4	0.4	26		
80.657	335.0	0.28	2	7	0.0	3	0.5	26		
80.659	337.9	0.25	2	7	+0.2	4	0.5	26		
80.676	335.9	0.23	1	7	0.0	4	0.4	26		
80.928	333.4	0.25	2	7	+0.5	4	0.4	26		
81.653	341.6	0.28	3	6	-0.2	3	0.5	26		
81.787	341.9	0.28	2	6	0.0	4	0.3	26		
81.826	337.7	0.33	2	6	-0.2	4	0.4	26		
81.842	338.7	0.30	2	5	-0.2	4	0.5	26		
83.893	357.6	0.37	1	6	+0.2	3	0.3	26		
84.713	353.0	0.36	1	6	+0.1	3	0.4	26		
84.716	352.9	0.35	1	5	+0.2	3	0.5	26		
85.589	358.4	0.39	1	6	0.0	3	0.3	26		
86.690	358.5	0.51	1	6	+0.1	3	0.3	26		
86.767	359.0	0.51	1	5	0.0	3	0.3	26		
86.788	358.2	0.50	1	5	0.0	3		26		
86.808	1.9	0.56	1	6	0.0	3	0.4	26		
77.388	301.1	0.18	3n		0.1			26-Inch		
78.742	317.0	0.18	3n		0.1			26-Inch		
79.840	327.5	0.24	4n		0.3			26-Inch		
80.730	335.6	0.25	4n		0.4			26-Inch		
81.777	340.0	0.30	4n		0.4			26-Inch		
84.441	354.5	0.36	3n		0.4			26-Inch		
86.528	359.2	0.52	5n		0.3			26-Inch		

Baize, 1974: -6.3, -0.04; -3.6, -0.06;
-1.7, -0.03; +0.7, -0.04;
-0.5, -0.02; +3.7, -0.04.
+2.7, +0.05.

15452	STT 452			21 55.7 +07 15						
79.808	181.0	0.82	1	5	-0.3	3	0.6	26		
79.852	179.3	0.90	1	4	-0.2	3	0.7	26		
79.885	181.3	0.89	1	7	+0.1	4	0.8	26		
79.887	182.7	0.99	1	4	0.0	3	0.8	26		
79.858	181.1	0.90	4n		0.7			26-Inch		
15461	STT 454			21 56.1 +24 20						
86.824	278.2	7.47	2	5	+0.1	3	1.8	26		
86.830	277.9	7.14	2	7	0.0	3	0.7	26		
86.849	278.5	7.24	2	7	0.0	3	1.0	26		
86.834	278.2	7.28	3n		1.2			26-Inch		
15464	STT 453			21 56.5 +07 14						
79.808	274.2	0.67	2	5	-0.2	3	0.3	26		
79.852	274.5	0.57	2	4	-0.1	3	0.7	26		
79.885	271.1	0.76	2	7	+0.2	4	0.5	26		
79.887	272.1	0.79	2	5	0.0	3	0.5	26		
79.858	273.0	0.70	4n		0.5			26-Inch		

15466 HU 381 21 56.6 +06 32

76.920	231.1	0.38	2	5	0.0	3	0.1	26
76.925	232.5	0.34	2	5	+0.3	3	0.2	26
77.689	233.5	0.31	2	6	+0.1	3	0.1	26
77.746	233.3	0.37	2	6	0.0	3	0.2	26
77.320	232.6	0.35	4n		0.1		26-Inch	

15478 A 622 21 57.2 +10 48

78.839	121.3	0.18	2	7	-0.2	3		26
79.797	124.6	0.14	2	7	0.0	4		26
79.846	127.3	0.18	2	7	0.0	4		26
79.885	128.2	0.17	2	7	0.0	4		26
79.592	125.4	0.17	4n				26-Inch	

15497 HU 772 21 57.6 +49 38

81.897	144.1	0.30	2	7	-0.2	3	0.1	26
81.902	142.4	0.33	2	5	0.0	4	0.2	26
81.924	146.1	0.35	2	5	+0.2	4		26
81.908	144.2	0.33	3n		0.1		26-Inch	

15488 A 891 21 57.7 -00 37

76.920	72.4	0.48	2	5	-0.2	3	0.2	26
76.925	74.4	0.56	2	5	+0.5	3	0.2	26
77.689	76.5	0.63	2	6	+0.1	3	0.4	26
77.746	74.2	0.49	2	5	+0.1	3	0.0	26
77.320	74.4	0.54	4n		0.2		26-Inch	

FIN 307 21 57.9 -54 59

78.792	62.9	0.14	3	6	+0.5	1	0.0	60
78.803	62.2	0.10	1	6	+0.5	1	0.0	60
78.806	70.8	0.10	2	7	+0.3	1	0.0	60
78.800	65.3	0.11	3n		0.0		60-Inch	

Churms, 1965 (1): +2.7, +0.03.
(2): -0.5, +0.04.

15501 A 304 21 58.5 +27 25

81.653	114.0	0.55	2	6	-0.1	3	0.8	26
81.787	120.3	0.49	2	7	+0.1	4	0.8	26
81.826	114.5	0.50	2	6	0.0	4	0.8	26
81.842	118.5	0.44	2	5	-0.1	4	0.6	26
81.777	116.8	0.50	4n		0.8		26-Inch	

B 546 21 58.5 -53 01

78.770	344.6	0.56	2	6	+0.1	1	0.1	36
78.773	343.3	0.59	2	5	+0.6	1	0.0	36
78.784	344.7	0.57	2	7	+0.5	1	0.2	36
78.776	344.2	0.57	3n		0.1		36-Inch	

LEO 51 21 59.4 -10 12

84.795	258.0	3.24	2	7	+0.5	4	0.2	36
84.798	259.8	3.10	2	8	+0.2	4	0.3	36
84.801	260.0	3.30	2	7	+0.2	4	0.4	36
84.798	259.3	3.21	3n		0.3		36-Inch	

15538 A 779 21 59.7 +60 33

81.653	268.3	0.34	2	5	0.0	3	1.0	26
81.842	270.5	0.31	2	5	0.0	4	1.2	26
81.864	267.8	0.29	2	5	-0.1	3	0.8	26
81.786	268.9	0.31	3n		1.0		26-Inch	

15547 HO 175 22 00.9 +43 39

81.897	310.3	1.00	2	7	-0.1	3	1.4	26
81.902	307.8	1.02	2	5	+0.1	4	2.5	26
81.924	313.6	1.01	2	5	0.0	4	2.6	26
81.908	310.6	1.01	3n		2.2		26-Inch	

15569 A 307 22 02.5 +26 12

77.760	150.7	0.68	2	5	-0.1	3	0.5	26
77.763	152.1	0.60	1	5	-0.3	3	0.8	26
78.836	150.5	0.61	2	5	-0.2	3	0.7	26
78.120	151.1	0.63	3n		0.6		26-Inch	

15618 A 894 22 04.3 +73 11

81.653	146.8	0.40	2	5	0.0	3		26
81.787	148.5	0.53	2	6	+0.1	4	0.2	26
81.826	141.0	0.47	2	5	-0.1	4	0.2	26
81.755	145.4	0.43	3n		0.2		26-Inch	

15599 BU 696 22 04.5 +15 52

79.808	187.2	0.28	2	5	-0.2	3		26
79.846	186.1	0.24	2	6	0.0	4	0.1	26
79.885	180.6	0.22	2	7	+0.2	4	0.3	26
79.890	179.6	0.23	2	6	-0.2	3	0.2	26
86.808	187.9	0.18	1	6	0.0	3		26
86.830	188.3	0.18	2	7	0.0	3		26
86.892	186.7	0.14	2	8	-0.2	3		26
79.857	183.4	0.24	4n		0.2		26-Inch	
86.843	187.6	0.17	3n				26-Inch	

SEE 466 22 05.0 -39 42

78.808	258.1	1.97	2	4	+0.5	1	0.7	60
78.808	258.1	1.97	1n		0.7		60-Inch	

15623	BU 990		22 05.1 +63 05						
81.842	133.4	0.63	2	5	0.0	4	0.6	26	
81.864	128.2	0.56	2	5	-0.1	3	1.2	26	
81.867	134.3	0.63	2	6	-0.1	4	0.8	26	
81.886	132.0	0.55	2	5	-0.3	3	0.8	26	
81.865	132.0	0.59	4n		0.8		26-Inch		
15613	A 1453		22 05.4 +38 58						
78.839	326.2	0.41	2	7	0.0	3	0.3	26	
79.797	323.1	0.48	2	7	0.0	4	0.3	26	
79.830	326.2	0.48	2	5	+0.1	3	0.3	26	
79.890	329.9	0.45	2	6	-0.1	3	0.3	26	
79.589	326.4	0.46	4n		0.3		26-Inch		
	B 548		22 05.6 -58 58						
78.770	218.3	0.23	2	6	+0.2	1		36	
78.773	223.2	0.21	2	6	+0.5	1		36	
78.781	223.7	0.17	2	7	+0.7	1		36	
78.775	221.7	0.20	3n				36-Inch		
15614	STF 2856		22 05.8 +04 52						
86.884	198.5	1.23	1	7	0.0	3	0.8	26	
86.892	193.9	1.16	1	7	-0.1	3	0.8	26	
86.928	196.0	1.24	1	4	+0.1	3	0.8	26	
86.901	196.1	1.21	3n		0.8		26-Inch		
	I 381		22 06.0 -56 28						
78.770	97.5	1.92	2	5	+0.3	1	2.4	36	
78.773	102.7	1.76	4	5	+0.7	1	2.2	36	
78.781	96.2	1.62	2	6	+0.8	1	2.5	36	
78.775	98.8	1.77	3n		2.4		36-Inch		
15639	STF 2862		22 07.1 +00 34						
85.589	98.9	2.42	2	6	0.0	3	0.7	26	
86.690	96.6	2.37	2	6	0.0	3	0.4	26	
86.892	98.3	2.43	2	8	+0.1	3	0.5	26	
86.390	97.9	2.41	3n		0.5		26-Inch		
	COU 537		22 07.7 +26 21						
86.884	35.2	0.19	2	6	0.0	3		26	
86.892	37.2	0.10	2	8	0.0	3		26	
86.888	36.2	0.14	2n				26-Inch		
	HU 1543		22 08.7 -56 27						
84.784	315.5	1.46	2	6	+0.4	3	2.2	60	
84.787	311.6	1.51	2	5	+0.2	3	1.5	60	
84.790	316.0	1.44	2	8	+0.4	3	2.2	60	
84.787	314.4	1.47	3n		2.0		60-Inch		
15673	STF 2868		22 09.4 +22 32						
80.659	355.7	1.19	2	7	+0.1	4	0.6	26	
80.676	354.2	1.12	2	7	0.0	4	0.4	26	
80.85.	356.0	1.09	2	4	0.0	3	0.3	26	
80.729	355.3	1.13	3n		0.4		26-Inch		
	COU 136		22 10.1 +23 07						
79.915	48.5	0.39	2	5	-0.2	3	0.2	26	
79.923	50.7	0.35	2	7	0.0	4	0.3	26	
79.945	48.3	0.34	2	5	+0.1	3	0.3	26	
86.808	37.4	0.47	2	7	0.0	3	0.0	26	
86.824	40.8	0.42	2	6	0.0	3	0.1	26	
86.830	40.1	0.41	2	7	0.0	3	0.1	26	
79.928	49.2	0.36	3n		0.3		26-Inch		
86.821	39.4	0.43	3n		0.1		26-Inch		
15701	A 2494		22 10.9 +42 11						
78.839	358.0	0.29	2	7	-0.1	3	0.0	26	
79.797	1.2	0.29	2	7	0.0	4	0.4	26	
79.830	352.1	0.28	2	5	0.0	3	0.0	26	
79.846	356.9	0.34	2	6	+0.1	4	0.1	26	
79.578	357.0	0.30	4n		0.2		26-Inch		
	EGG 4		22 11.0 +24 29						
84.713	156.0	0.50	2	7	+0.1	3	0.4	26	
84.872	154.5	0.44	2	5	0.0	3		26	
85.589	154.6	0.39	2	6	0.0	3	0.2	26	
85.058	155.0	0.44	3n		0.3		26-Inch		
15707	STT 464		22 11.3 +40 11						
79.808	135.9	0.25	2	5	-0.2	3		26	
79.830	138.4	0.26	2	5	+0.1	3		26	
79.846	139.6	0.26	2	6	+0.2	3		26	
79.890	139.1	0.22	2	6	-0.1	3	0.2	26	
79.844	138.2	0.25	4n		0.2		26-Inch		
15718	A 409		22 11.6 +40 56						
81.902	17.3	0.35	2	4	0.0	4		26	
81.924	21.0	0.46	2	4	0.0	4		26	
83.893	13.5	0.42	2	7	0.0	3	0.3	26	
82.573	17.3	0.41	3n		0.3		26-Inch		
15721	ES 1178		22 11.7 +49 41						
76.703	118.7	1.55	2	5	-0.2	3	0.1	26	
77.689	117.9	1.84	2	7	+0.1	3	0.1	26	
77.746	116.8	1.68	2	6	0.0	3	0.2	26	
77.379	117.8	1.69	3n		0.1		26-Inch		

	MLB 723		22 12.0 +25 46					
86.830	345.1	2.64	2	7	0.0	3	0.4	26
86.849	342.9	2.50	2	7	0.0	3	0.5	26
86.851	341.2	2.07	2	7	0.0	3	0.4	26
86.843	343.1	2.40	3n		0.4		26-Inch	
15725	BU 475		22 12.6 -08 00					
84.795	175.5	0.75	1	8	+0.5	4	2.2	36
84.798	176.4	0.91	2	7	+0.5	4	2.4	36
84.801	181.7	0.88	1	7	+0.1	4	2.5	36
84.798	177.9	0.85	3n		2.4		36-Inch	
15748	A 626		22 12.8 +60 13					
80.676	101.0	0.79	2	5	0.0	4	0.0	26
80.890	102.3	0.84	2	5	-0.4	3	0.1	26
80.892	103.2	0.79	2	4	-0.3	3	0.7	26
80.819	102.2	0.81	3n		0.3		26-Inch	
15735	HU 978		22 12.8 +13 55					
79.852	212.5	1.04	2	4	-0.3	3	0.5	26
79.887	210.0	1.14	2	5	-0.2	3	0.7	26
79.890	211.8	1.13	2	7	0.0	3	0.5	26
79.915	213.0	1.13	2	5	-0.3	3	0.6	26
79.886	211.8	1.11	4n		0.6		26-Inch	
15767	STF 2878		22 14.5 +07 59					
81.864	118.9	1.43	2	5	0.0	3	1.3	26
81.867	118.9	1.43	2	6	-0.2	4	1.0	26
81.886	118.1	1.40	4	6	-0.3	3	1.2	26
81.897	118.3	1.39	2	7	+0.1	3	0.8	26
81.878	118.6	1.41	4n		1.1		26-Inch	
15769	STF 2881		22 14.6 +29 35					
81.864	81.6	1.35	2	6	0.0	3	0.3	26
81.867	83.4	1.22	2	6	-0.1	4	0.4	26
81.886	82.7	1.36	2	6	-0.2	3	0.4	26
81.897	81.7	1.29	2	7	0.0	3	0.3	26
81.878	82.4	1.30	4n		0.3		26-Inch	
15772	AG 281		22 14.8 +21 57					
84.872	17.8	2.57	2	5	0.0	3	0.3	26
85.589	21.2	2.59	1	6	0.0	3	0.8	26
86.690	20.2	2.58	2	6	0.0	3	0.5	26
85.717	19.7	2.58	3n		0.5		26-Inch	
15792	HU 696		22 15.7 +51 52					
78.836	241.0	0.22	2	5	-0.2	3	0.0	26
78.839	238.7	0.22	2	6	-0.1	3	0.2	26
79.797	239.9	0.28	2	7	0.0	4	0.3	26
79.157	239.9	0.24	3n		0.2		26-Inch	
15794	HO 180		22 15.8 +43 54					
76.703	233.6	0.78	2	4	-0.2	3	0.2	26
77.746	236.5	0.80	2	6	0.0	3	0.4	26
77.760	239.4	0.67	2	5	-0.1	3	0.4	26
77.403	236.5	0.75	3n		0.3		26-Inch	
	RST 4098		22 15.9 -13 14					
84.782	16.8	0.35	2	7	0.0	3	0.8	60
84.784	10.0	0.42	2	4	+0.7	3	1.0	60
84.787	13.8	0.33	2	6	+0.2	3	0.3	60
84.782	13.5	0.37	3n		0.7		60-Inch	
	B 2501		22 15.9 -58 00					
84.773	151.7	1.37	2	5	0.0	3	0.2	60
84.784	152.4	1.26	2	5	+0.4	3	0.0	60
84.793	148.8	1.17	2	7	-0.4	3	0.1	60
84.783	151.0	1.27	3n		0.1		60-Inch	
	COU 1191		22 16.4 +34 38					
86.830	204.2	0.44	2	7	0.0	3	0.5	26
86.849	210.5	0.44	2	6	0.0	3		26
86.884	206.2	0.38	2	7	0.0	3	0.6	26
86.854	207.0	0.42	3n		0.6		26-Inch	
15822	A 782		22 17.4 +71 57					
81.653	289.0	0.43	2	5	0.0	3	0.4	26
81.787	290.7	0.41	2	7	0.0	4	0.4	26
81.826	290.3	0.46	2	5	-0.1	4	0.2	26
81.755	290.0	0.43	3n		0.3		26-Inch	
15833	A 627		22 19.0 +60 12					
77.689	135.1	1.05	2	7	0.0	3	0.8	26
77.760	133.8	1.05	2	5	-0.2	3	0.6	26
77.763	137.4	1.09	2	5	-0.4	3	0.4	26
77.737	135.4	1.06	3n		0.6		26-Inch	
15834	A 1461		22 19.1 +56 07					
81.787	91.8	1.68	2	7	0.0	4	0.2	26
81.842	93.6	1.71	2	5	-0.1	4	0.5	26
81.864	92.3	1.71	2	6	-0.3	3	0.8	26
81.864	92.6	1.70	3n		0.5		26-Inch	

15835 HU 383 22 19.6 +21 07

76.728	27.9	0.31	2	7	0.0	4	0.1	26			
77.689	35.3	0.33	2	6	+0.2	3	0.0	26			
77.746	31.0	0.33	2	6	0.0	3	0.0	26			
77.763	37.9	0.30	2	5	-0.2	3	0.0	26			
77.482	33.0	0.32	4n		0.0			26-Inch			

15843 BU 1216 22 20.2 +29 31

79.915	286.8	0.93	2	5	-0.4	3	0.3	26			
79.923	286.2	0.91	2	7	-0.2	4	0.3	26			
79.945	288.2	0.89	2	5	+0.1	3	0.4	26			
79.928	287.1	0.91	3n		0.3			26-Inch			

15856 BU 379 22 20.6 +53 49

80.676	333.6	1.15	2	5	0.0	4	0.3	26			
80.890	334.8	1.22	2	5	-0.4	3	0.4	26			
80.892	336.2	1.21	2	4	-0.3	3	0.6	26			
80.819	334.9	1.19	3n		0.4			26-Inch			

RST 1130 22 21.2 -51 08

78.770	134.1	2.90	2	5	+0.2	1	1.1	36			
78.781	133.8	2.95	2	6	+0.6	1	1.5	36			
78.789	133.7	2.64	2	8	+0.8	1	0.7	36			
78.780	133.9	2.83	3n		1.1			36-Inch			

B 557 22 22.0 -34 31

78.792	307.9	0.24	2	7	+0.3	1	0.2	60			
78.800	307.5	0.13	2	4	+0.1	1	0.5	60			
78.806	308.6	0.25	2	7	+0.3	1	0.2	60			
78.800	308.0	0.22	3n		0.3			60-Inch			

15877 A 2694 22 22.5 -07 28

78.784	189.1	0.33	1	8	+0.5	1	0.1	36			
78.787	186.1	0.35	1	5	+0.4	1	0.2	36			
78.789	186.1	0.33	1	8	+0.2	1	0.2	36			
78.787	187.1	0.34	3n		0.2			36-Inch			

I 134 22 22.5 -56 09

78.770	287.1	0.53	2	5	+0.3	1	0.6	36			
78.781	286.5	0.38	2	5	+0.7	1	0.7	36			
78.787	291.5	0.39	2	4	+1.0	1	0.6	36			
78.789	287.2	0.43	2	8	+0.9	1	0.8	36			
78.782	288.1	0.43	4n		0.7			36-Inch			

RST 3301 22 23.1 -22 57

84.787	250.2	0.72	2	6	+0.2	3	0.8	60			
84.790	252.3	0.67	2	7	+0.8	3	0.6	60			
84.793	252.2	0.62	2	7	+0.1	3	1.0	60			
84.790	251.6	0.67	3n		0.8			60-Inch			

WOR 11 22 23.4 +32 28

77.689	176.1	1.72	2	6	+0.2	3	0.2	26			
77.746	176.6	1.73	2	6	0.0	3	0.1	26			
77.760	177.3	1.84	2	5	0.0	3	0.0	26			
77.763	179.3	1.87	2	5	-0.4	3	0.1	26			
83.857	187.6	1.77	2	7	-0.2	3	0.3	26			
83.893	190.2	1.70	2	6	0.0	3	0.2	26			
86.830	194.7	1.72	2	7	0.0	3	0.0	26			
86.884	192.3	1.58	2	7	0.0	3		26			
77.740	177.3	1.79	4n		0.1			26-Inch			
83.875	188.9	1.74	2n		0.2			26-Inch			
86.857	193.5	1.65	2n		0.0			26-Inch			

15902 BU 172 22 24.1 -04 51

78.784	282.9	0.24	2	7	+0.5	1		36			
78.787	278.9	0.24	2	6	+0.4	1	0.0	36			
78.789	279.1	0.25	2	8	+0.3	1	0.0	36			
79.797	277.0	0.25	2	7	+0.2	4	0.2	26			
79.846	276.2	0.26	2	7	+0.1	4	0.2	26			
79.885	276.2	0.24	2	7	0.0	4	0.1	26			
79.887	277.3	0.21	2	5	-0.2	3	0.2	26			
82.825	266.5	0.14	2	6	-0.1	3	0.0	26			
83.893	245.0	0.16	2	6	0.0	3	0.0	26			
84.776	220.4	0.16	2	7	+0.1	3	0.0	60			
84.782	219.2	0.14	2	7	0.0	3	0.0	60			
84.784	220.2	0.15	2	6	+0.7	3	0.0	60			
78.787	280.3	0.24	3n		0.0			36-Inch			
79.854	276.7	0.24	4n		0.2			26-Inch			
83.359	255.8	0.15	2n		0.0			26-Inch			
84.781	219.9	0.15	3n		0.0			60-Inch			

Baize, 1984: +0.2, -0.01; + 2.0, +0.01;
+5.4, -0.04; -17.4, -0.03.

15936 HU 596 22 26.5 +19 25

79.852	200.1	1.21	2	4	-0.4	3	0.4	26			
79.887	200.4	1.20	2	5	-0.1	3	0.4	26			
79.890	198.6	1.19	2	6	-0.2	3	0.5	26			
79.915	202.0	1.22	2	5	-0.4	3	0.3	26			
79.886	200.3	1.20	4n		0.4			26-Inch			

HU 1639 22 27.3 -50 04

84.773	72.6	0.65	2	5	+0.3	3	0.8	60			
84.776	74.4	0.73	2	6	+0.4	3	0.8	60			
84.790	74.5	0.67	2	6	+0.2	3	0.8	60			
84.780	73.8	0.68	3n		0.8			60-Inch			

	I 137		22 27.4 -58 00				
84.773	338.1	2.24	2 5	0.0	3	3.2	60
84.776	338.7	2.17	2 6	+0.5	3	3.0	60
84.790	338.2	2.20	2 7	+0.3	3	2.6	60
84.780	338.3	2.20	3n	3.0		60-Inch	

15972	KR 60		22 28.1 +57 43				
77.593	194.0	2.27	4 4	-0.4	3	1.6	26
77.689	195.7	2.37	2 7	0.0	3	1.6	26
77.746	192.6	2.24	1 6	0.0	3	1.5	26
77.760	192.9	2.52	2 4	-0.2	3	1.5	26
78.737	189.2	2.38	2 4	-0.3	3	1.8	26
78.836	187.4	2.42	2 5	-0.5	3	1.7	26
78.839	186.0	2.43	2 7	-0.3	3	1.6	26
78.948	186.6	2.32	1 5	+0.2	3	1.5	26
79.797	177.4	2.64	1 7	-0.2	4	1.5	26
79.808	179.2	2.56	2 5	-0.4	3	1.6	26
79.846	178.9	2.69	2 6	0.0	4	1.4	26
79.852	182.0	2.62	3 5	-0.2	3	1.5	26
80.657	174.6	2.61	2 7	-0.3	3	1.6	26
80.659	174.4	2.70	2 7	-0.2	4	1.5	26
80.676	174.0	2.70	2 5	-0.1	4	1.4	26
80.890	173.5	2.72	4 5	-0.4	3	1.5	26
81.653	168.7	2.79	2 6	-0.2	3	1.0	26
81.787	167.7	2.69	2 7	-0.1	4	1.4	26
81.807	169.6	2.75	2 4	-0.1	4	1.5	26
81.826	168.0	2.85	2 6	-0.1	4	1.3	26
82.825	164.7	2.95	2 5	-0.1	3	1.5	26
83.857	157.8	3.14	2 7	0.0	3	1.6	26
83.893	159.5	2.93	2 7	0.0	3	1.4	26
85.589	153.1	3.14	2 6	0.0	3	1.7	26
86.690	147.0	3.10	4 6	-0.1	3	1.8	26
86.767	146.1	3.20	2 6	-0.1	3	1.6	26
86.788	146.1	3.32	2 6	-0.5	3	1.5	26
77.697	193.8	2.35	4n	1.6		26-Inch	
78.840	187.3	2.39	4n	1.6		26-Inch	
79.826	179.4	2.63	4n	1.5		26-Inch	
80.720	174.1	2.68	4n	1.5		26-Inch	
81.768	168.5	2.77	4n	1.3		26-Inch	
83.525	160.7	3.01	3n	1.5		26-Inch	
86.458	148.1	3.19	4n	1.6		26-Inch	

Heintz, 1985: -0.8, +0.10; +1.3, -0.03;
-0.1, +0.08; 0.0, +0.02;
+0.1, -0.01; +1.0, +0.05.
+1.0, +0.01.

15965	BU 1218		22 28.1 +29 42				
79.852	53.2	1.65	2 5	-0.4	3	0.2	26
79.887	53.9	1.63	2 5	-0.1	3	0.2	26
79.890	53.5	1.51	2 7	-0.1	3	0.4	26
79.915	56.1	1.63	2 5	-0.3	3	0.3	26
79.886	54.2	1.60	4n	0.3		26-Inch	

15962	BU 701		22 28.1 +12 15				
80.676	211.4	0.96	2 5	0.0	4	2.4	26
80.890	204.8	1.02	1 6	0.0	3	2.5	26
80.928	214.8	1.10	2 7	+0.1	4	2.4	26
80.831	210.3	1.03	3n	2.4		26-Inch	

Costa, Docobo, 1982: +6.3, +0.32.

15971	STF 2909		22 28.8 -00 01				
77.593	234.5	1.73	2 3	-0.2	3	0.2	26
77.722	233.4	1.76	2 3	-0.2	3	0.3	26
77.760	233.5	1.95	2 5	0.0	3	0.2	26
77.763	233.8	1.75	2 4	-0.2	3	0.2	26
77.946	233.9	1.71	2 5	+0.4	3	0.2	26
78.737	231.3	1.74	2 5	-0.1	3	0.2	26
78.839	230.5	1.68	2 7	0.0	3	0.2	26
78.932	233.4	1.77	2 4	+0.5	3	0.2	26
78.948	232.1	1.74	2 6	-0.1	3	0.2	26
78.951	232.0	1.81	2 3	0.0	3	0.2	26
79.797	229.2	1.69	2 7	0.0	4	0.2	26
79.808	231.0	1.72	2 3	-0.3	3	0.2	26
79.830	228.0	1.79	2 4	+0.1	3	0.2	26
79.846	227.9	1.72	2 8	+0.1	4	0.2	26
79.852	230.2	1.68	2 5	-0.2	3	0.2	26
79.887	229.4	1.68	2 6	+0.1	3	0.2	26
79.915	229.4	1.68	2 5	-0.3	3	0.2	26
79.956	229.3	1.62	2 7	-0.2	3	0.2	26
80.657	226.3	1.64	2 7	-0.3	3	0.2	26
80.659	226.3	1.68	2 7	+0.4	4	0.2	26
80.676	225.5	1.52	2 5	+0.2	4	0.2	26
80.766	226.4	1.71	2 4	-0.6	3	0.2	26
80.851	226.4	1.60	2 4	-0.2	3	0.3	26
80.887	226.5	1.68	2 4	-0.3	3	0.3	26
81.842	221.2	1.64	2 5	-0.2	4	0.2	26
81.864	221.6	1.72	2 5	-0.2	3	0.3	26
81.867	220.9	1.56	2 6	-0.2	4	0.3	26
81.886	222.2	1.61	2 5	-0.2	3	0.2	26
81.897	222.3	1.73	2 6	-0.1	3	0.2	26
81.902	222.8	1.87	2 5	-0.1	4	0.2	26
81.924	221.9	1.61	2 5	-0.1	4	0.2	26
81.960	221.3	1.58	2 6	0.0	3	0.2	26
82.825	218.6	1.50	2 5	-0.1	3	0.2	26
83.857	216.3	1.79	2 7	0.0	3	0.2	26
83.893	217.5	1.67	2 6	+0.2	3	0.2	26
84.713	214.8	1.79	2 5	+0.2	3	0.2	26
84.716	214.6	1.66	2 5	-0.2	3	0.2	26
84.872	214.9	1.99	2 5	-0.2	3	0.2	26
84.946	214.4	1.56	2 6	0.0	3	0.2	26
85.589	211.8	1.83	2 5	-0.2	3	0.2	26
86.690	206.3	1.82	2 6	0.0	3	0.2	26
86.767	212.4	1.97	2 6	0.0	3	0.2	26
86.788	207.5	1.76	1 5	-0.2	3	0.2	26
86.808	211.1	1.81	3 7	0.0	3	0.2	26
86.824	210.4	2.01	2 5	-0.2	3	0.2	26
86.830	210.2	1.85	2 8	0.0	3	0.2	26
86.849	210.7	1.92	2 5	-0.1	3	0.2	26
86.928	210.2	1.93	2 5	-0.1	3	0.2	26
77.757	233.8	1.78	5n	0.2		26-Inch	
78.881	231.9	1.75	5n	0.2		26-Inch	
79.861	229.3	1.70	8n	0.2		26-Inch	
80.749	226.2	1.64	6n	0.2		26-Inch	
81.893	221.8	1.66	8n	0.2		26-Inch	
83.525	217.5	1.65	3n	0.2		26-Inch	
84.812	214.7	1.75	4n	0.2		26-Inch	
86.675	210.1	1.88	9n	0.2		26-Inch	

Harrington, 1968: +2.0, +0.03; +2.5, +0.02;
+2.1, -0.03; +1.2, -0.09;
-0.4, -0.08; -0.8, -0.12;
-0.8, -0.05; -1.7, +0.02.

Residuals are from the photocentric orbit. The later Heintz orbit gives similar residuals, while the Costa, Docobo residuals are larger. Harrington has shown that the orbit is essentially indeterminate.

RST 1133 22 28.8 -49 15

78.770	105.2	0.99	2 5 +0.2 1 0.0 36
78.773	108.1	0.79	2 5 +0.5 1 0.0 36
78.781	109.2	0.84	2 5 +0.8 2 0.2 36
78.775	107.5	0.87	3n 0.1 36-Inch

15976 HU 1317 22 29.0 +14 20

79.852	125.5	0.46	2 5 -0.4 3 0.2 26
79.885	128.4	0.45	2 7 0.0 4 0.2 26
79.887	131.2	0.43	2 5 0.0 3 0.2 26
79.890	127.1	0.46	2 7 0.0 3 0.2 26
79.878	128.0	0.45	4n 0.2 26-Inch

15984 BU 76 22 29.5 -00 12

79.890	357.9	1.65	1 7 0.0 3 2.2 26
79.915	356.6	1.74	1 5 -0.2 3 1.3 26
79.923	357.3	1.74	1 7 -0.1 4 1.8 26
79.945	357.8	1.92	1 4 +0.2 3 1.8 26
79.918	357.4	1.76	4n 1.8 26-Inch

15995 HU 1318 22 29.9 +51 22

80.890	15.5	0.78	2 5 -0.3 3 0.2 26
80.892	12.4	0.82	2 3 -0.3 3 0.2 26
81.653	13.6	0.78	2 5 -0.2 3 0.2 26
81.145	13.8	0.79	3n 0.1 26-Inch

15988 STF 2912 22 30.0 +04 26

78.948	116.7	0.79	2 5 0.0 3 1.6 26
79.718	115.1	0.84	2 5 +0.1 3 1.2 26
79.797	114.1	0.80	2 8 +0.1 4 0.8 26
79.846	115.1	0.88	2 7 +0.2 4 1.2 26
81.842	116.8	0.73	2 5 -0.2 4 0.8 26
81.864	113.4	0.81	2 5 -0.1 3 1.2 26
81.867	116.0	0.78	2 5 -0.1 3 1.2 26
81.886	115.2	0.81	2 5 -0.1 3 1.5 26
83.857	113.8	0.72	2 5 +0.1 3 1.2 26
83.893	117.4	0.80	2 5 +0.2 3 1.2 26
84.715	116.0	0.86	2 5 0.0 3 1.2 26
84.872	117.1	0.61	2 5 -0.1 3 26
86.808	115.8	0.66	2 6 +0.1 3 1.0 26
86.824	116.0	0.69	2 5 0.0 3 1.2 26
86.830	114.7	0.61	2 7 0.0 3 1.0 26
86.849	117.6	0.65	2 5 -0.1 3 1.4 26
79.577	115.2	0.83	4n 1.2 26-Inch
81.865	115.4	0.78	4n 1.2 26-Inch
84.334	116.1	0.75	4n 1.2 26-Inch
86.828	116.0	0.65	4n 1.2 26-Inch

Knipe, 1960: -2.4, -0.21; -2.3, -0.23;
-1.6, -0.24; -1.6, -0.31.
Closing in well ahead of the prediction.

RST 4708 22 30.0 -06 04

84.795	53.5	1.67	2 7 +0.3 4 0.1 36
84.798	52.3	1.59	2 7 +0.2 4 0.1 36
84.801	54.8	1.68	2 8 -0.1 4 0.1 36
84.798	53.5	1.65	3n 0.1 36-Inch

15992 HU 388 22 30.3 +22 28

78.737	50.1	0.39	2 5 0.0 3 0.2 26
78.839	47.9	0.34	2 7 +0.1 3 0.0 26
78.932	50.5	0.36	2 5 +0.6 3 0.2 26
81.842	45.8	0.39	2 6 -0.1 4 0.2 26
81.864	48.9	0.40	2 5 0.0 3 0.2 26
81.867	46.7	0.43	2 6 -0.3 3 0.3 26
81.886	50.2	0.40	2 6 -0.3 3 0.3 26
78.836	49.5	0.36	3n 0.1 26-Inch
81.865	47.9	0.40	4n 0.3 26-Inch

Baize, 1976: -2.4, -0.02; -6.0, 0.00.
Costa, Docobo, 1983: +2.9, +0.02;
-0.6, +0.06.

RST 3302 22 30.3 -20 33

84.795	56.8	1.17	2 7 +0.4 4 0.2 36
84.798	53.0	1.38	2 7 +0.3 4 0.0 36
84.801	54.2	1.36	4 7 +0.4 4 36
84.798	54.7	1.30	3n 0.1 36-Inch

16011 HU 981 22 30.5 +61 38

78.839	222.9	0.25	2 7 -0.1 3 0.2 26
78.948	220.0	0.26	2 5 +0.1 3 0.3 26
79.797	221.8	0.31	2 8 -0.2 4 0.3 26
79.852	225.5	0.30	2 5 -0.1 3 0.0 26
79.923	226.4	0.32	2 7 0.0 4 0.2 26
85.589	214.3	0.30	2 5 0.0 3 26
86.690	222.0	0.33	2 6 0.0 3 26
86.767	221.4	0.26	2 6 -0.1 3 0.0 26
86.788	224.7	0.35	2 5 -0.5 3 26
79.472	223.3	0.31	5n 0.2 26-Inch
86.458	220.6	0.31	4n 0.0 26-Inch

16009 HU 1319 22 30.7 +48 56

79.923	36.0	0.29	2 7 0.0 4 26
81.787	37.3	0.29	2 7 0.0 4 26
81.826	43.0	0.27	2 5 0.0 4 0.2 26
81.842	37.4	0.28	2 6 -0.1 4 0.1 26
81.344	38.4	0.28	4n 0.1 26-Inch

16004 A 1466 22 30.7 +39 23

81.864	165.0	0.73	2 6 0.0 3 0.3 26
81.886	169.3	0.86	2 5 -0.5 3 0.5 26
81.897	167.1	0.76	2 6 -0.2 3 0.3 26
81.902	168.0	0.67	4 5 -0.1 4 0.4 26
81.887	167.4	0.76	4n 0.4 26-Inch

	I 1455		22 32.0 -42 44				
78.792	148.4	0.10	2 7 +0.5 1				60
78.806	131.7	0.10	2 6 +0.3 1				60
78.808	141.6	0.10	2 6 +0.5 1				60
78.802	140.6	0.10	3n				60-Inch

	KUI 112 AP		22 32.7 +53 47				
78.839	200.8	0.38	2 6 -0.2 3		0.1		26
79.797	202.9	0.47	2 7 -0.1 4		0.2		26
79.846	204.2	0.51	2 6 0.0 4		0.2		26
79.885	198.6	0.53	2 7 0.0 4		0.4		26
81.787	204.2	0.51	2 8 0.0 4		0.3		26
81.842	210.4	0.48	2 6 0.0 4		0.2		26
81.864	216.0	0.50	2 6 -0.4 3		0.3		26
81.867	212.3	0.47	2 6 -0.5 4		0.2		26
81.897	218.5	0.44	2 7 -0.5 3		0.3		26
86.808	222.4	0.64	2 7 -0.2 3				26
86.830	230.9	0.57	2 7 0.0 3		0.2		26
86.884	229.0	0.51	2 7 0.0 3		0.4		26
79.579	201.6	0.47	4n	0.2			26-Inch
81.851	212.3	0.48	5n	0.2			26-Inch
86.841	227.4	0.57	3n	0.3			26-Inch

Heintz, 1976: -11.1, +0.01; -10.9, -0.05;
-12.4, -0.07.

16046	HU 1320		22 32.8 +49 23				
77.746	296.2	0.28	2 6 0.0 3		0.0		26
77.760	296.8	0.26	2 5 0.0 3		0.1		26
77.763	295.1	0.26	2 4 -0.2 3		0.0		26
80.659	304.3	0.26	2 7 0.0 4		0.2		26
80.890	303.5	0.30	2 6 0.0 3		0.0		26
80.892	308.6	0.29	2 4 -0.3 3				26
80.928	310.9	0.30	2 7 +0.1 4		0.2		26
82.825	309.5	0.28	2 5 0.0 3		0.0		26
83.857	302.1	0.27	2 7 -0.1 3		0.2		26
83.893	304.4	0.27	2 6 0.0 3		0.2		26
77.756	296.0	0.27	3n	0.0			26-Inch
80.842	306.8	0.29	4n	0.1			26-Inch
83.525	305.3	0.27	3n	0.1			26-Inch

Couteau, 1972: -5.7, -0.01; -1.3, -0.01;
-7.9, -0.04.

16041	BU 381		22 32.9 +33 24				
81.886	230.3	1.52	2 6 -0.4 3		1.3		26
81.902	231.6	1.54	2 5 0.0 4		1.5		26
81.960	230.0	1.45	2 6 +0.2 3		1.2		26
81.916	230.6	1.50	3n	1.3			26-Inch

16057	STF 2924		22 33.0 +69 54				
79.852	90.0	0.47	2 5 0.0 3		0.3		26
79.885	88.4	0.44	2 7 0.0 4		0.4		26
79.887	91.2	0.53	2 4 +0.1 3		0.5		26
79.890	90.8	0.38	2 7 0.0 3		0.4		26
79.878	90.1	0.46	4n	0.4			26-Inch

Heintz, 1956: +3.9, -0.08.

16073	A 1468		22 34.2 +54 05				
81.653	254.9	0.35	2 5 -0.1 3		0.1		26
81.787	255.1	0.25	2 6 +0.1 4		0.0		26
81.826	257.8	0.21	2 5 0.0 4		0.0		26
81.842	254.8	0.23	2 6 0.0 4		0.0		26
81.777	255.6	0.26	4n	0.0			26-Inch

16056	HU 389		22 34.2 -18 41				
78.784	162.3	0.20	2 7 +0.7 1		0.0		36
78.787	168.1	0.20	2 6 +0.5 1		0.0		36
78.789	165.5	0.19	2 9 +0.4 1		0.1		36
84.776	183.8	0.15	2 6 +0.1 3		0.2		60
84.782	183.2	0.17	2 8 0.0 3		0.2		60
84.784	183.4	0.17	2 5 +0.6 3				60
78.787	165.8	0.20	3n	0.0			36-Inch
84.781	183.5	0.16	3n	0.2			60-Inch

	HU 1544		22 35.2 -53 37				
84.773	134.0	0.66	2 5 +0.3 3		0.3		60
84.776	136.8	0.58	2 5 +0.5 3		0.2		60
84.790	134.5	0.60	2 7 +0.4 3		0.0		60
84.780	135.1	0.61	3n	0.2			60-Inch

16111	BU 1092		22 36.1 +72 52				
86.808	60.4	0.19	2 5 -0.2 3				26
86.830	59.9	0.26	2 6 0.0 3		0.0		26
86.884	59.4	0.19	2 7 0.0 3		0.0		26
86.841	59.9	0.21	3n	0.0			26-Inch

Baize, 1987: +4.7, +0.02.
Heintz, 1986: +5.9, -0.03.
Docobo, Costa, 1986: +4.5, 0.00.

16138	HO 295		22 38.8 +44 18				
77.746	155.1	0.25	2 7 0.0 3		0.2		26
77.760	157.7	0.20	2 5 0.0 3		0.0		26
78.839	153.8	0.17	2 6 0.0 3		0.0		26
78.115	155.5	0.21	3n	0.0			26-Inch

Harris, 1947: +2.2, +0.02.
Lester, 1962: -2.7, +0.02.

16139	HU 392		22 39.0 +18 50				
79.915	353.8	0.44	2 5 -0.2 3		0.1		26
79.923	348.5	0.49	2 7 0.0 4		0.1		26
79.945	352.1	0.53	2 5 +0.2 3		0.3		26
79.928	351.5	0.49	3n	0.2			26-Inch

16144 STF 2929 22 39.3 +10 33

86.824	359.9	1.99	1	6	-0.1	3	0.2	26
86.830	358.0	2.06	1	7	+0.1	3	0.0	26
86.849	358.7	2.21	1	6	0.0	3	0.4	26
86.928	359.7	2.10	1	5	-0.2	3		26
86.858	359.1	2.09	4n		0.2			26-Inch

16142 HU 393 22 39.1 +20 13

79.915	238.5	0.92	4	5	-0.1	3	1.7	26
79.923	235.5	0.92	2	6	0.0	3	2.0	26
79.945	237.0	0.88	2	5	+0.3	3	2.4	26
79.928	237.0	0.91	3n		2.0			26-Inch

16157 A 2099 22 40.0 +01 12

79.797	158.1	0.55	1	7	+0.1	4	1.0	26
79.846	157.8	0.54	4	7	+0.3	4	1.0	26
79.885	159.6	0.56	4	7	+0.2	4	0.6	26
79.915	154.0	0.49	2	5	-0.2	3	1.0	26
86.690	162.8	0.58	1	7	0.0	3	0.7	26
86.767	163.0	0.63	1	6	0.0	3	0.6	26
86.808	162.4	0.66	2	6	0.0	3	0.7	26
86.824	162.6	0.68	1	5	0.0	3	0.6	26
79.861	157.4	0.54	4n		0.9			26-Inch
86.772	162.7	0.64	4n		0.6			26-Inch

Baize, 1983: -2.1, +0.03; +0.2, +0.06.

16164 HO 188 22 40.2 +37 31

77.689	192.7	0.28	2	6	+0.2	3	0.0	26
77.746	195.2	0.29	2	5	+0.2	3	0.0	26
77.760	194.5	0.30	2	5	+0.1	3	0.0	26
86.884	202.5	0.36	2	7	0.0	3	0.4	26
86.928	203.0	0.32	2	5	-0.1	3		26
77.732	194.1	0.29	3n		0.0			26-Inch
86.906	202.8	0.34	2n		0.4			26-Inch

Popovic, 1976: -1.5, +0.02.
Costa, Docobo, 1986: +0.1, -0.01.

16160 HU 288 22 40.2 -15 58

78.784	60.2	0.30	2	7	+0.5	1	0.0	36
78.787	65.1	0.30	2	7	+0.5	2	0.0	36
78.789	62.6	0.32	2	9	+0.4	1	0.1	36
78.787	62.6	0.31	3n		0.0			36-Inch

16165 HU 494 22 40.5 +06 31

77.746	129.9	0.31	2	5	+0.3	3	0.0	26
78.839	132.7	0.35	2	5	+0.2	3	0.2	26
78.948	135.5	0.31	2	5	+0.2	3		26
78.511	132.7	0.32	3n		0.1			26-Inch

Couteau, 1975: -11.4, +0.02.

16173 HO 296 22 40.8 +14 32

79.797	16.5	0.27	1	7	+0.1	4	1.0	26
79.846	22.3	0.31	2	7	+0.2	4	0.7	26
79.852	22.4	0.30	3	5	0.0	3	0.7	26
79.885	19.9	0.28	2	7	+0.3	4	0.8	26
79.845	20.3	0.29	4n		0.8			26-Inch

Heintz, 1985: -2.7, 0.00.

KUI 114 22 40.8 -03 33

84.782	120.9	0.15	2	6	+0.2	3		60
84.787	124.1	0.17	2	5	0.0	3	0.5	60
84.790	120.4	0.17	2	7	+0.4	3	0.7	60
84.793	124.0	0.15	2	7	0.0	3	0.2	60
84.788	122.4	0.16	4n		0.5			60-Inch

Baize, 1976: -1.6, 0.00.

16185 STF 2934 22 41.8 +21 25

77.760	76.0	1.03	2	5	+0.2	3	1.0	26
77.763	81.4	1.10	2	4	-0.2	3	0.8	26
77.946	76.7	0.89	2	5	+0.2	3	1.2	26
78.839	73.5	0.99	2	5	+0.2	3	0.7	26
81.886	70.0	1.13	2	5	0.0	3	0.9	26
81.902	75.6	1.09	2	5	-0.1	4	0.8	26
81.960	73.9	1.14	2	5	0.0	3	0.8	26
82.825	74.3	1.04	2	5	-0.1	3	0.6	26
84.716	71.2	1.09	2	5	0.0	3	0.8	26
84.946	70.0	0.99	2	6	-0.1	3	1.2	26
85.589	67.8	0.98	2	5	-0.1	3	0.7	26
78.077	76.9	1.04	3n		0.9			26-Inch
82.138	73.4	1.10	4n		0.8			26-Inch
85.084	69.7	1.02	3n		0.9			26-Inch

Heintz, 1981: +1.1, 0.00; +0.9, +0.04;
-1.1, -0.06.

B 574 22 42.1 -37 09

78.792	288.9	0.83	2	7	+0.4	1	0.5	60
78.800	287.5	0.85	2	4	+0.1	1	0.7	60
78.796	288.2	0.84	2n		0.6			60-Inch

16199 BU 710 22 42.6 +29 42

79.915	252.5	0.41	2	5	0.0	3	0.1	26
79.923	249.0	0.46	2	6	+0.1	4	0.1	26
79.956	246.8	0.43	2	7	+0.1	3	0.3	26
79.931	249.4	0.43	3n		0.2			26-Inch

16205 HU 395 22 42.8 +23 47

79.915	87.8	0.51	2	5	0.0	3	0.2	26
79.923	90.6	0.59	2	6	+0.1	4	0.2	26
79.956	90.6	0.50	2	7	+0.2	3	0.2	26
79.931	89.7	0.53	3n		0.2			26-Inch

16215 HU 289 22 43.5 -16 09

84.795	281.9	1.34	2	7	+0.4	4	0.1	36
84.798	281.8	1.40	2	8	+0.2	4	0.2	36
84.801	281.8	1.34	2	6	+0.3	4	0.2	36
84.798	281.8	1.36	3n		0.2			36-Inch

RST 5487 22 44.2 -00 58

78.784	241.1	0.22	2	7	+0.3	1	0.0	36
78.787	244.2	0.22	2	6	+0.2	1	0.0	36
78.789	243.4	0.22	2	9	0.0	1	0.0	36
78.787	242.9	0.22	3n		0.0			36-Inch

16244 A 1474 22 45.1 +54 59

81.886	183.3	0.47	2	5	-0.3	3	0.5	26
81.897	183.3	0.40	2	7	-0.7	3	0.1	26
81.902	187.3	0.40	2	5	0.0	4	0.2	26
81.895	184.6	0.42	3n		0.3			26-Inch

16235 A 2696 BC 22 45.1 -02 39

78.784	109.9	0.45	2	6	+0.4	1	0.8	36
78.787	105.1	0.44	2	6	+0.3	1	0.6	36
78.789	105.1	0.46	2	9	+0.1	1	0.6	36
78.787	106.7	0.45	3n		0.7			36-Inch

Heintz, 1973: +1.8, -0.04.

16249 HU 783 22 45.3 +51 29

80.659	179.3	0.18	2	7	-0.1	4		26
80.890	185.3	0.22	2	6	-0.1	3		26
80.928	172.4	0.22	2	6	+0.1	4	0.0	26
80.826	179.0	0.21	3n		0.0			26-Inch

16263 HU 984 22 46.3 +66 16

81.787	12.1	0.83	2	7	0.0	4	0.4	26
81.826	11.6	0.71	2	5	0.0	4	0.3	26
81.842	11.5	0.68	2	4	-0.2	4	0.6	26
81.818	11.7	0.74	3n		0.4			26-Inch

B 2059 22 47.8 -57 05

78.808	75.8	0.17	2	7	+0.3	1	0.1	60
78.808	75.8	0.17	1n		0.1			60-Inch

16272 HO 297 22 47.9 +26 52

86.824	131.9	6.91	2	6	0.0	3	0.0	26
86.849	131.8	6.99	2	6	0.0	3	0.5	26
86.884	131.9	6.90	2	6	0.0	3	0.3	26
86.352	131.9	6.93	3n		0.3			26-Inch

Clearly optical.

16273 HU 985 22 47.9 +12 59

84.713	151.3	0.71	2	5	+0.4	3	1.0	26
84.946	161.6	0.54	2	6	0.0	3	1.5	26
85.589	156.7	0.62	2	5	-0.1	3	1.0	26
86.808	157.3	0.63	2	6	0.0	3	1.2	26
85.514	156.7	0.62	4n		1.2			26-Inch

16278 BU 1146 22 48.5 +31 06

79.890	108.2	0.20	2	6	0.0	3	1.0	26
79.923	106.4	0.18	2	6	+0.1	4	1.0	26
79.956	105.4	0.17	2	7	-0.3	3	1.0	26
79.923	106.7	0.18	3n		1.0			26-Inch

Morel, 1970: -4.9, 0.00.

RST 4112 22 49.1 -15 41

84.787	107.5	0.65	2	6	+0.5	3	0.5	60
84.790	108.4	0.59	2	7	+0.5	3	0.4	60
84.793	107.0	0.66	2	7	+0.1	3	0.6	60
84.790	107.6	0.63	3n		0.5			60-Inch

16287 HO 190 22 49.4 +28 01

79.915	156.3	2.23	2	5	0.0	3	0.0	26
81.842	154.5	2.31	2	6	0.0	4	0.1	26
81.864	157.0	2.23	2	5	-0.1	3	0.2	26
81.207	155.9	2.26	3n		0.1			26-Inch

FIN 288 22 49.5 -57 42

78.770	39.5	1.70	2	5	+0.1	1	0.3	36
78.773	37.0	1.59	4	5	+0.3	1	0.2	36
78.781	40.7	1.52	2	6	+0.6	1	0.3	36
78.775	39.1	1.60	3n		0.3			36-Inch

HDO 301 22 50.0 -32 48

78.792	104.5	0.20	2	7	+0.7	1	0.2	60
78.800	104.4	0.22	2	4	+0.1	1	0.2	60
78.803	104.9	0.21	2	6	+0.3	1	0.2	60
84.773	53.3	0.20	2	6	+0.1	3	0.0	60
84.776	54.2	0.18	2	5	+0.4	3		60
84.784	50.5	0.20	2	5	+0.5	3	0.2	60
84.793	52.9	0.17	2	7	0.0	3	0.0	60
78.798	104.6	0.21	3n		0.2			60-Inch
84.781	52.7	0.19	4n		0.0			60-Inch

Finsen, 1964: -2.0, -0.06; -9.8, -0.01.

16310 BU 1332 22 50.9 +53 03

80.890	128.8	1.66	2	6	-0.2	3	0.2	26
80.892	130.7	1.73	2	3	-0.5	3	0.3	26
80.928	131.2	1.60	2	6	+0.2	4	0.2	26
80.903	130.2	1.66	3n		0.2			26-Inch

16314 HO 482 22 51.4 +26 24

79.718	38.4	0.30	2	6	0.0	3	0.0	26
79.797	38.6	0.28	1	8	0.0	4	0.2	26
79.846	41.7	0.33	2	8	+0.1	4	0.2	26
79.852	41.7	0.38	2	5	0.0	3	0.0	26
80.659	36.3	0.31	2	7	+0.1	4	0.1	26
80.890	36.2	0.34	2	6	-0.1	3	0.2	26
80.928	33.8	0.31	2	6	+0.3	4	0.3	26
84.946	24.5	0.29	2	6	0.0	3	0.2	26
84.962	32.3	0.34	2	5	0.0	3	0.3	26
85.589	29.7	0.29	2	6	-0.1	3	0.3	26
86.767	29.8	0.44	2	7	-0.2	3		26
79.803	40.1	0.32	4n		0.1			26-Inch
80.826	35.4	0.32	3n		0.2			26-Inch
85.566	29.1	0.34	4n		0.3			26-Inch

Morel, 1970: +0.6, -0.02; -2.8, -0.02; -3.8, -0.03.

COU 239 22 51.9 +22 19

86.824	294.9	2.00	2	6	0.0	3	0.3	26
86.830	297.5	2.01	2	7	0.0	3	0.2	26
86.849	300.3	2.07	2	6	0.0	3	0.3	26
86.834	297.6	2.03	3n		0.3			26-Inch

I 683 22 51.9 -46 46

78.770	337.4	1.83	2	5	0.0	1	0.2	36
78.773	337.1	1.97	2	5	+0.3	1	0.2	36
78.781	336.8	1.83	2	5	+0.6	1	0.2	36
78.775	337.1	1.88	3n		0.2			36-Inch

16326 A 632 22 52.1 +57 44

79.852	174.3	1.01	2	6	0.0	3	0.8	26
79.885	174.4	1.06	2	7	-0.1	4	0.4	26
79.887	173.4	1.01	2	4	0.0	3	0.6	26
79.890	173.5	0.98	2	7	-0.2	3	0.4	26
79.878	173.9	1.02	4n		0.4			26-Inch

Baize, 1983: +2.7, +0.07.

COU 541 22 53.1 +29 26

84.946	69.8	1.21	2	7	0.0	3	0.6	26
86.690	71.2	1.46	2	6	0.0	3	0.8	26
86.767	68.0	1.43	2	7	-0.1	3	0.6	26
86.734	69.7	1.37	3n		0.7			26-Inch

B 2505 22 53.2 -37 59

78.800	175.3	3.11	4	4	0.0	1	0.4	60
78.806	175.2	3.09	2	7	+0.2	1	0.3	60
78.808	175.0	3.04	2	7	+0.3	1	0.3	60
78.805	175.2	3.08	3n		0.3			60-Inch

16345 BU 382 22 53.7 +44 45

79.915	209.4	1.03	2	6	0.0	3	1.8	26
79.945	208.5	1.09	2	5	0.0	3	1.5	26
79.956	204.4	1.00	2	7	-0.4	3	1.5	26
81.653	211.6	1.00	2	5	0.0	3	1.5	26
81.787	205.0	0.91	2	7	0.0	4	1.8	26
81.826	206.1	1.05	2	5	-0.1	4	1.6	26
81.842	208.8	0.97	2	6	-0.2	4	1.8	26
79.939	207.4	1.04	3n		1.6			26-Inch
81.777	207.9	0.98	4n		1.7			26-Inch

Muller, 1954: +2.1, +0.08; +0.8, +0.02.
Rabe, 1961: +0.5, +0.03; -0.6, -0.04.

16355 A 190 22 54.3 +47 23

81.787	222.9	0.31	2	7	0.0	4	0.4	26
81.826	207.4	0.29	2	5	-0.1	4		26
81.897	234.2	0.31	2	6	0.0	3		26
81.960	233.6	0.25	2	5	0.0	3		26
81.868	224.6	0.29	4n		0.4			26-Inch

16366 BU 712 22 54.9 +59 14

76.925	298.0	1.29	2	5	0.0	3	0.2	26
77.689	294.4	1.29	2	6	+0.1	3	0.2	26
78.948	297.4	1.42	2	5	0.0	3	0.4	26
77.854	296.6	1.33	3n		0.3			26-Inch

I 1460 22 55.0 -40 56

84.773	20.0	0.24	2	7	+0.2	3	0.0	60
84.776	15.2	0.20	2	5	+0.4	3		60
84.784	14.0	0.18	2	5	+0.5	3	0.0	60
84.778	16.4	0.21	3n		0.0			60-Inch

16362 A 1234 22 55.1 -01 02

79.890	63.5	1.00	2	6	0.0	3	0.6	26
79.915	65.9	1.04	2	5	0.0	3	0.8	26
79.923	65.1	1.03	2	6	+0.2	4	0.8	26
79.909	64.8	1.02	3n		0.7			26-Inch

I 22 22 55.3 -48 28

84.773	172.4	0.53	2	6	+0.3	3	0.2	60
84.776	172.0	0.57	2	4	+0.5	3		60
84.784	173.8	0.51	2	6	+0.6	3	0.0	60
84.778	172.7	0.54	3n		0.1			60-Inch

16373 HU 987 22 55.7 +15 47

79.890	103.3	0.82	2	6	0.0	3	0.3	26
79.915	102.9	0.85	2	5	+0.1	3	0.3	26
79.923	103.2	0.86	2	6	+0.1	4	0.3	26
79.909	103.1	0.84	3n		0.3			26-Inch

Heintz, 1984: +9.4, +0.07.

16393	STT 484			22 56.2	+72 50				
79.718	113.9	0.35	2	5	0.0	3	0.4	26	
79.797	113.2	0.38	2	8	0.0	4	0.7	26	
79.846	116.6	0.38	2	5	+0.1	4	0.7	26	
79.852	114.1	0.38	2	5	+0.1	3	0.6	26	
79.803	114.4	0.37	4n	0.6	26-Inch				
Muller, 1955: +5.2, -0.02.									
16379	STF 2957			22 56.3	+17 28				
86.690	225.4	4.37	2	7	0.0	3	0.8	26	
86.788	227.0	4.55	2	5	-0.1	3	1.4	26	
86.808	224.9	4.64	2	6	-0.1	3	1.1	26	
86.762	225.8	4.52	3n	1.1	26-Inch				
	COU 240			22 56.4	+22 57				
79.890	292.1	0.66	2	6	+0.1	3	0.4	26	
79.915	291.7	0.76	2	5	+0.1	3	0.4	26	
79.923	292.2	0.74	2	6	+0.2	4	0.5	26	
79.909	292.0	0.72	3n	0.4	26-Inch				
16404	HU 990			22 57.6	+62 22				
76.917	287.3	1.04	2	5	0.0	3	1.0	26	
77.689	286.1	1.02	2	5	+0.2	3	1.8	26	
78.948	289.9	0.97	2	5	+0.1	3	1.7	26	
77.851	287.8	1.01	3n	1.5	26-Inch				
16414	A 1236			22 58.5	+00 01				
76.728	353.5	0.75	1	6	0.0	4	0.3	26	
80.890	354.6	0.75	1	6	-0.1	3	0.8	26	
78.809	354.0	0.75	2n	0.6	26-Inch				
	HU 1335			22 58.6	-45 31				
78.775	42.6	0.21	2	5	+0.3	1		36	
78.773	44.3	0.24	2	6	+0.3	1		36	
78.781	43.7	0.21	2	5	+0.6	1		36	
84.784	74.0	0.35	2	6	+0.6	3	0.3	60	
84.787	78.2	0.31	2	6	+0.7	3	0.2	60	
84.790	73.2	0.34	2	8	+0.8	3	0.4	60	
84.793	71.0	0.40	2	8	+0.1	3	0.2	60	
78.775	43.5	0.22	3n		36-Inch				
84.788	74.1	0.35	4n	0.3	60-Inch				
Heintz, 1984: -1.1, 0.00; +2.1, -0.05.									
16428	STT 483			22 59.2	+11 44				
80.659	299.3	0.60	2	7	0.0	4	1.2	26	
80.890	299.2	0.68	2	6	0.0	3	0.8	26	
80.928	300.7	0.72	2	6	+0.3	4	0.8	26	
80.944	299.3	0.54	2	4	0.0	3	0.8	26	
80.855	299.6	0.64	4n	0.9	26-Inch				
Valbousquet, 1981: +4.4, -0.06.									
Guntzel-Lingner, 1956: -2.6, -0.04.									
16449	STF 2969			23 01.0	+26 46				
86.849	35.7	3.86	2	5	0.0	3	1.8	26	
86.884	35.0	3.86	2	8	-0.1	3	1.2	26	
86.928	34.3	3.94	2	5	-0.3	3	1.5	26	
86.887	35.0	3.89	3n	1.5	26-Inch				
16469	STT 487			23 01.2	+80 46				
81.787	205.4	0.23	2	5	0.0	4		26	
83.857	197.8	0.23	1	5	-0.2	3	0.7	26	
82.822	201.6	0.23	2n	0.7	26-Inch				
16459	HU 993			23 01.6	+67 46				
79.718	217.8	2.01	2	5	0.0	3	2.0	26	
79.797	217.2	2.00	2	8	0.0	4	1.4	26	
79.852	215.9	2.10	3	5	0.0	3	1.8	26	
79.789	217.0	2.04	3n	1.7	26-Inch				
16463	HU 398			23 02.3	+18 36				
77.746	255.0	0.23	2	7	0.0	3	0.0	26	
77.946	250.8	0.22	2	5	+0.1	3	0.2	26	
78.839	247.6	0.25	2	5	0.0	3	0.3	26	
82.825	256.7	0.26	2	5	+0.1	3	0.3	26	
83.857	267.3	0.28	2	6	+0.1	3	0.2	26	
83.893	265.8	0.32	2	5	0.0	3	0.3	26	
86.690	267.3	0.35	2	7	0.0	3	0.3	26	
86.767	267.6	0.35	2	6	-0.1	3	0.3	26	
86.808	256.3	0.36	2	6	-0.1	3	0.2	26	
86.824	261.0	0.37	2	7	+0.1	3	0.3	26	
86.830	259.1	0.35	2	7	+0.1	3	0.3	26	
78.177	251.1	0.23	3n	0.2	26-Inch				
83.525	263.3	0.29	3n	0.3	26-Inch				
86.784	262.3	0.36	5n	0.3	26-Inch				
Starikova, 1985: +7.6, -0.04; +5.8, -0.02; -2.2, +0.03.									
	DON 1040			23 02.3	-42 58				
84.793	271.5	3.20	2	8	+0.1	3	0.8	60	
84.793	271.5	3.20	1n	0.8	60-Inch				
16465	BU 384			23 02.6	-18 33				
84.795	62.6	1.08	2	6	+0.2	4	2.0	36	
84.798	62.4	1.20	2	7	0.0	4	2.0	36	
84.801	61.8	1.06	2	7	+0.1	4	2.2	36	
84.798	62.3	1.11	3n	2.1	36-Inch				
	COU 142			23 03.9	+25 12				
86.808	16.0	0.57	2	6	-0.1	3		26	
86.824	16.6	0.54	2	6	-0.1	3		26	
86.830	19.0	0.49	2	7	0.0	3		26	
86.821	17.2	0.53	3n		26-Inch				

COU 143 23 04.8 +23 53

86.824	56.4	0.60	2	6	0.0	3	0.6	26
86.830	56.6	0.48	2	6	0.0	3	0.8	26
86.884	47.1	0.51	2	7	0.0	3	0.3	26
86.846	53.4	0.53	3n		0.6			26-Inch

No motion in 20 years.

RST 4118 23 04.8 -15 44

78.800	193.5	2.63	1	4	0.0	1	2.8	60
78.803	196.5	2.35	1	5	+0.4	1	3.5	60
78.808	193.3	2.45	2	5	+0.7	1	3.2	60
78.804	194.4	2.48	3n		3.2			60-Inch

16497 A 417 23 05.2 -07 42

84.773	2.6	0.17	1	7	+0.2	3	0.0	60
84.782	357.3	0.13	2	6	-0.1	3	0.0	60
84.787	359.5	0.16	2	6	+0.3	3	0.0	60
84.781	359.8	0.15	3n		0.0			60-Inch

Hirst, 1944: +8.8, +0.02.
The Aitken orbit (1932) gives worse residuals.

B 1898 23 05.2 -18 22

78.784	294.1	0.20	2	6	+0.3	1	0.0	36
78.789	294.6	0.19	2	8	+0.3	1	0.1	36
78.786	294.4	0.20	2n		0.0			36-Inch

16516 HO 194 23 06.1 +41 47

79.956	58.4	0.40	2	7	+0.1	3	1.3	26
81.864	61.2	0.43	2	5	-0.1	3	1.5	26
81.897	70.5	0.39	2	5	0.0	3	1.8	26
83.857	70.6	0.36	2	6	0.0	3	1.4	26
81.894	65.2	0.40	4n		1.5			26-Inch

16514 STF 2977 23 06.5 +61 26

79.887	354.3	2.05	2	5	-0.2	3	3.5	26
79.945	355.9	1.97	2	5	+0.2	3	2.8	26
79.956	352.0	1.85	2	6	0.0	3	2.4	26
79.929	354.1	1.96	3n		2.9			26-Inch

16538 STT 489 23 07.9 +75 23

81.787	323.3	1.11	2	5	0.0	4	2.4	26
81.897	321.8	1.03	2	5	0.0	3	1.4	26
81.960	323.7	0.98	2	5	-0.1	3	2.0	26
81.881	322.9	1.04	3n		1.9			26-Inch

Muller, 1952: -13.9, +0.04.

16530 HU 994 23 07.9 +63 38

77.760	119.9	0.17	2	5	-0.1	3	0.2	26
79.718	130.2	0.20	2	5	0.0	3	0.0	26
79.797	126.6	0.24	2	7	0.0	4	0.0	26
79.846	124.0	0.20	2	7	0.0	4	0.2	26
79.280	125.2	0.20	4n		0.1			26-Inch

16529 A 1899 23 08.2 +05 02

79.887	73.2	1.75	2	7	+0.1	4	4.4	26
79.890	70.5	1.74	2	5	0.0	3	4.0	26
79.956	64.1	1.56	2	7	+0.1	3	3.4	26
79.911	69.3	1.68	3n		3.9			26-Inch

16531 HO 196 23 08.3 +30 27

83.857	296.6	1.78	2	5	+0.1	3	1.6	26
83.893	296.8	1.85	2	5	0.0	3	1.7	26
84.946	296.5	1.97	2	7	0.0	3	2.0	26
84.962	298.0	1.67	2	5	0.0	3	1.6	26
84.414	297.0	1.82	4n		1.7			26-Inch

16537 HU 995 23 08.7 +15 32

81.653	193.9	1.10	4	5	-0.1	3	0.8	26
81.826	194.4	0.98	2	5	-0.1	4	0.8	26
81.842	192.3	1.04	2	6	-0.1	4	0.7	26
81.774	193.5	1.04	3n		0.8			26-Inch

16539 A 1238 23 08.8 +10 57

80.659	218.1	0.23	2	7	+0.1	4	0.5	26
80.890	218.0	0.20	2	6	0.0	3	0.0	26
80.928	210.0	0.23	2	6	+0.2	3	0.5	26
80.826	215.4	0.22	3n		0.3			26-Inch

Muller, 1955: +3.5, -0.02.

RST 3320 23 09.9 -22 27

78.803	333.4	0.24	1	6	+0.4	1	0.6	60
78.806	329.0	0.24	2	5	+0.1	1	0.6	60
78.808	329.8	0.28	1	5	+0.7	1	0.8	60
84.795	311.1	0.22	2	7	+0.3	4	0.5	36
84.798	319.9	0.26	2	7	0.0	4	0.6	36
84.801	313.2	0.27	2	7	+0.1	4	0.6	36
78.806	330.7	0.25	3n		0.7			60-Inch
84.798	314.7	0.25	3n		0.6			36-Inch

16561 BU 385 23 10.3 +32 29

81.653	93.3	0.67	2	5	0.0	3	0.6	26
81.864	94.8	0.55	2	5	-0.1	3	0.8	26
81.886	93.0	0.62	2	4	-0.1	3	0.7	26
85.967	92.6	0.65	2	5	0.0	3	0.7	26
82.842	93.4	0.62	4n		0.7			26-Inch

16576 HO 197 23 11.4 +38 13

79.890	326.3	0.25	2	6	0.0	3	0.3	26	
79.915	318.4	0.26	2	6	+0.1	3	0.3	26	
79.923	322.9	0.25	2	6	+0.1	4	0.3	26	
79.909	322.5	0.25	3n		0.3			26-Inch	

Costa, Morales, 1978: +2.9, 0.00.

I 1466 23 11.8 -44 43

78.770	198.9	0.84	2	4	+0.2	1	0.4	36	
78.773	191.3	0.69	2	6	+0.4	1	0.6	36	
78.781	193.2	0.70	2	5	+0.5	1	0.6	36	
78.775	194.5	0.74	3n		0.5			36-Inch	

16591 A 2298 23 12.6 +02 42

78.803	97.5	0.14	2	6	+0.5	1	0.1	60	
78.806	99.0	0.15	2	5	0.0	1	0.0	60	
78.808	97.8	0.16	2	6	+0.1	1	0.0	60	
84.773	284.1	0.17	2	6	+0.2	3		60	
84.782	276.0	0.11	2	6	-0.1	3		60	
84.787	288.5	0.14	2	6	+0.3	3	0.0	60	
84.790	283.3	0.15	2	6	+0.2	3	0.0	60	
86.824	281.1	0.15	2	7	0.0	3		26	
86.884	280.3	0.18	2	7	-0.1	3		26	
78.806	98.1	0.15	3n		0.0			60-Inch	
84.783	283.0	0.14	4n		0.0			60-Inch	
86.854	280.7	0.16	2n					26-Inch	

Costa, Docobo, 1983: - 4.5, 0.00;
-14.0, 0.00;
- 8.4, +0.01.
Increased deviations near periastron.

HU 1644 23 12.7 -61 48

78.770	331.1	0.71	2	4	+0.4	1	0.2	36	
78.773	335.6	0.53	2	5	+0.4	1	0.1	36	
78.781	329.7	0.60	2	5	+0.6	1	0.1	36	
78.775	332.1	0.61	3n		0.1			36-Inch	

16592 HLD 170 23 12.8 -21 56

84.776	310.7	1.09	2	4	+0.6	3	1.4	60	
84.784	310.2	1.04	2	6	+0.7	3	1.2	60	
84.787	310.6	0.99	2	6	+0.4	3	1.2	60	
84.782	310.5	1.04	3n		1.3			60-Inch	

16604 A 418 23 13.5 -08 54

78.789	36.3	0.61	1	9	+0.2	1	0.8	36	
78.808	34.4	0.78	2	5	+0.2	1	1.3	60	
78.789	36.3	0.61	1n		0.8			36-Inch	
78.808	34.4	0.78	1n		1.3			60-Inch	

16607 A 2299 BC 23 13.6 +02 13

84.946	70.0	1.16	2	6	-0.1	3	0.4	26	
84.962	75.0	1.06	2	5	-0.1	3	0.6	26	
85.967	73.7	1.20	2	5	+0.1	3	0.3	26	
86.690	74.3	1.20	2	7	0.0	3	0.5	26	
85.641	73.2	1.16	4n		0.5			26-Inch	

16621 A 200 23 14.6 +41 16

76.746	86.9	0.48	2	6	0.0	3	0.7	26	
78.932	85.7	0.37	2	4	0.0	3	0.7	26	
78.948	86.6	0.34	2	5	-0.1	3	0.6	26	
78.209	86.4	0.40	3n		0.7			26-Inch	

16651 DOO 21 23 15.2 +60 27

84.946	127.4	1.31	2	6	0.0	3	0.2	26	
84.962	132.3	1.24	2	5	0.0	3	0.5	26	
86.690	127.4	1.30	2	7	0.0	3	0.2	26	
85.533	129.0	1.28	3n		0.3			26-Inch	

SEE 480 23 15.4 -35 42

84.776	283.1	0.94	2	5	+0.3	3	0.2	60	
84.787	282.2	0.86	2	7	+0.6	3	0.1	60	
84.790	285.2	0.89	2	8	+0.4	3	0.2	60	
84.784	283.5	0.90	3n		0.2			60-Inch	

16633 BU 1220 BC 23 15.8 -09 05

79.885	282.3	0.31	2	7	0.0	4	0.1	26	
79.956	272.7	0.30	2	7	+0.1	3	0.2	26	
80.890	280.2	0.29	2	6	+0.1	3		26	
80.928	284.1	0.31	2	6	+0.2	4		26	
84.793	280.6	0.35	2	8	+0.1	3	0.2	60	
84.795	275.0	0.31	2	6	+0.3	4	0.0	36	
84.798	278.4	0.40	2	8	0.0	4	0.2	36	
84.801	285.5	0.31	2	6	+0.1	4		36	
80.415	279.8	0.30	4n		0.1			26-Inch	
84.793	280.6	0.35	1n		0.2			60-Inch	
84.798	279.6	0.34	3n		0.0			36-Inch	

16641 A 1482 23 16.2 +54 25

79.718	94.2	1.38	2	4	-0.1	3	0.1	26	
79.846	95.1	1.30	2	7	0.0	4	0.1	26	
79.852	93.4	1.41	2	4	0.0	3	0.1	26	
79.887	96.4	1.33	2	5	-0.2	3	0.2	26	
79.826	94.8	1.36	4n		0.1			26-Inch	

NZO 107 23 16.4 -60 31

78.770	332.9	1.47	2	5	+0.1	1	0.4	36	
78.773	334.9	1.44	2	5	+0.4	1	0.2	36	
78.781	331.5	1.27	2	5	+0.7	1	0.5	36	
78.775	333.1	1.39	3n		0.4			36-Inch	

16644 BU 182 23 17.1 -13 49

78.776	48.9	0.73	2	4	+0.6	1	0.2	36	
78.784	48.9	0.72	2	7	+0.2	1	0.2	36	
78.787	46.5	0.76	2	5	+0.2	1	0.1	36	
78.789	47.7	0.75	2	9	+0.3	1	0.1	36	
84.787	49.0	0.76	2	7	+0.6	3	0.2	60	
84.790	48.2	0.75	2	6	+0.2	3	0.1	60	
84.793	47.5	0.72	2	8	0.0	3	0.1	60	
78.784	48.0	0.74	4n		0.2			36-Inch	
84.790	48.2	0.74	3n		0.1			60-Inch	

Baize, 1961: +2.6, +0.01; +2.8, +0.07.

16650 HU 400 23 17.6 +18 19

86.808	124.9	0.29	2	6	-0.1	3	1.5	26	
86.824	119.5	0.30	2	7	0.0	3	1.0	26	
86.884	118.4	0.26	2	7	0.0	3	1.5	26	
86.839	120.9	0.28	3n		1.3			26-Inch	

Heintz, 1962: -3.5, -0.07.

16649 BU 79 23 17.6 -01 31

79.846	22.6	1.46	1	6	0.0	4	1.5	26	
79.885	24.3	1.36	2	7	+0.1	4	1.4	26	
79.890	23.5	1.52	1	5	0.0	3	2.0	26	
79.915	23.4	1.53	1	6	0.0	3	1.6	26	
86.830	21.8	1.67	2	6	0.0	3	0.8	26	
86.849	22.1	1.52	2	5	-0.2	3	1.5	26	
86.884	18.7	1.65	1	6	0.0	3	1.2	26	
79.884	23.4	1.47	4n		1.6			26-Inch	
86.854	20.9	1.61	3n		1.2			26-Inch	

Heintz, 1962: -1.1, -0.04; -0.7, +0.08.

STI 1165 23 18.1 +60 17

79.718	236.9	6.93	2	5	0.0	3	0.8	26	
81.960	237.0	6.80	2	5	0.0	3	1.0	26	
80.839	237.0	6.86	2n		0.9			26-Inch	

16658 HU 598 23 18.1 -16 21

78.776	125.1	1.42	2	4	+0.7	1	0.3	36	
78.784	125.6	1.46	2	7	+0.3	1	0.4	36	
78.787	123.9	1.57	2	5	+0.3	1	0.4	36	
78.782	124.9	1.48	3n		0.4			36-Inch	

16665 BU 80 23 18.9 +05 25

77.689	312.0	0.98	2	4	+0.1	3	1.4	26	
77.746	309.0	1.03	2	7	+0.1	3	0.5	26	
77.760	309.1	1.03	2	5	0.0	3	1.0	26	
77.946	308.4		2	6	+0.2	3	1.0	26	
77.995	307.3	1.07	2	5	+0.7	3	1.1	26	
79.718	313.5	1.18	2	5	+0.1	3	0.8	26	
79.797	312.7	1.07	2	8	-0.1	4	1.1	26	
79.846	313.1	1.04	2	7	+0.1	4	0.9	26	
79.852	313.8	1.15	2	3	0.0	3	1.0	26	
81.864	315.9	0.96	2	4	-0.2	3	1.5	26	
81.897	311.1	0.98	2	5	0.0	3	1.2	26	
81.902	315.3	0.88	2	4	-0.2	4	1.0	26	
81.960	314.3	1.02	2	5	+0.1	3	0.8	26	
83.893	319.3	0.79	1	5	+0.1	3	1.3	26	
84.713	317.3	0.86	2	4	0.0	3	1.2	26	
84.716	317.8	0.83	2	4	-0.1	3	0.8	26	
84.946	319.1	0.80	2	7	0.0	3	0.8	26	
86.767	324.0	0.89	2	5	+0.1	3	0.8	26	
86.808	322.6	0.80	2	7	-0.1	3	1.0	26	
86.824	330.3	0.70	2	7	0.0	3	0.8	26	
86.830	325.0	0.83	2	6	0.0	3	0.8	26	
77.827	309.2	1.03	4n		1.0			26-Inch	
79.803	313.3	1.11	4n		0.9			26-Inch	
81.906	314.2	0.96	4n		1.1			26-Inch	
84.567	318.4	0.82	4n		1.0			26-Inch	
86.807	325.5	0.80	4n		0.8			26-Inch	

Couteau, 1984: -0.7, +0.07; +0.6, +0.18;
-1.6, +0.08; -2.0, +0.01;
+0.7, +0.05.

16670 A 2699 23 19.0 -06 43

78.792	300.0	0.91	2	7	+0.1	1	0.8	60	
78.803	299.6	0.80	2	5	+0.5	2	0.8	60	
78.806	298.2	0.80	2	5	+0.2	1	0.6	60	
78.800	299.3	0.84	3n		0.7			60-Inch	

COU 742 23 19.8 +34 45

77.760	29.0	0.25	2	5	0.0	3	0.2	26	
77.946	27.6	0.27	2	5	+0.2	3	0.2	26	
78.839	29.2	0.27	2	5	0.0	3		26	
82.825	27.2	0.26	2	5	0.0	3	0.2	26	
83.857	21.8	0.29	2	5	0.0	3		26	
83.893	23.6	0.22	2	5	-0.2	3		26	
78.182	28.6	0.26	3n		0.2			26-Inch	
83.525	24.2	0.26	3n		0.2			26-Inch	

16695 A 640 23 21.2 +60 35

79.887	15.0	0.86	2	5	-0.2	3	0.2	26	
79.915	18.3	0.91	1	6	+0.1	3	0.2	26	
79.945	16.6	1.03	2	5	0.0	3	0.2	26	
79.916	16.6	0.93	3n		0.2			26-Inch	

16699 ROE 135 23 21.8 +11 51

77.746	137.8	1.36	1	7	+0.1	3	1.6	26
77.946	136.0		1	5	+0.3	3	2.4	26
79.747	137.6	1.00	2	8	0.0	4	1.8	26
79.956	137.1	1.15	2	7	0.0	3	2.3	26
79.166	137.5	1.17	3n		2.0		26-Inch	

16700 HU 95 23 21.8 -12 17

78.792	331.9	0.35	2	6	+0.1	1	0.8	60
78.803	329.4	0.36	1	5	+0.5	1	0.6	60
78.806	330.1	0.40	2	5	0.0	1	0.6	60
84.773	321.4	0.43	2	5	+0.2	3	0.5	60
84.782	321.7	0.35	2	6	-0.1	3	1.0	60
84.784	321.1	0.37	2	5	+0.5	3	1.2	60
78.800	330.5	0.37	3n		0.7		60-Inch	
84.780	321.4	0.38	3n		0.9		60-Inch	

Couteau, 1963: +11.7, 0.00; +14.5, -0.03.

16708 HU 295 23 22.6 -15 03

78.776	100.7	0.38	2	5	+0.4	1	0.5	36
78.784	102.5	0.38	2	7	+0.3	1	0.5	36
78.787	104.1	0.37	2	5	+0.4	1	0.8	36
84.773	107.3	0.27	2	6	+0.3	3	1.2	60
84.782	111.6	0.29	2	6	0.0	3	0.6	60
84.784	110.6	0.28	2	5	+0.5	3	0.4	60
78.782	102.4	0.38	3n		0.6		36-Inch	
84.780	109.8	0.28	3n		0.7		60-Inch	

van den Bos, 1953: -1.3, -0.05;
-3.3, -0.01.

16731 STT 495 23 24.1 +57 32

86.690	120.5	0.35	2	7	0.0	3	0.2	26
86.808	118.2	0.35	2	7	-0.1	3	0.2	26
86.824	116.2	0.32	2	7	0.0	3	0.3	26
86.830	117.4	0.28	2	7	0.0	3	0.0	26
86.788	118.1	0.32	4n		0.2		26-Inch	

Opening out.

FIN 289 23 25.6 -55 27

78.781	17.9	1.64	2	4	+0.6	1	3.0	36
78.787	17.3	1.68	1	6	+1.0	1	4.0	36
78.784	17.6	1.66	2n		3.5		36-Inch	

16762 ROE 103 23 27.3 +09 26

76.955	128.7	2.27	2	5	-0.1	3	1.2	26
77.689	130.7	2.21	2	4	0.0	3	1.2	26
77.746	129.3	2.26	2	7	0.0	3	0.4	26
77.463	129.6	2.25	3n				26-Inch	

16767 STN 59 23 27.8 -26 41

78.776	214.7	1.44	2	4	+0.7	1	0.4	36
78.784	212.9	1.47	2	7	+0.6	1	0.4	36
78.787	214.1	1.58	2	7	+0.4	1	0.4	36
78.782	213.9	1.50	3n		0.4		36-Inch	

16792 BU 1149 23 29.7 +58 29

79.797	289.6	0.41	2	7	0.0	4	1.0	26
79.797	289.6	0.41	1n		1.0		26-Inch	

I have been unable to relocate this pair.

16791 HU 599 23 29.9 -20 35

78.784	202.2	0.16	2	8	+0.2	1	0.0	36
78.737	204.5	0.18	2	6	+0.4	1		36
78.789	204.9	0.18	2	9	+0.2	1	0.0	36
84.798	193.0	0.16	2	8	-0.1	4	0.4	36
84.801	198.7	0.16	2	7	0.0	4	0.0	36
78.787	203.9	0.17	3n		0.0		36-Inch	
84.800	195.8	0.16	2n		0.2		36-Inch	

16795 DA 2 CD 23 30.0 +58 33

86.690	211.7	1.32	2	6	0.0	3	1.6	26
86.808	212.8	1.52	2	6	-0.1	3	1.5	26
86.824	214.2	1.36	2	7	0.0	3	1.5	26
86.830	213.0	1.36	2	6	0.0	3	1.4	26
86.788	212.9	1.39	4n		1.5		26-Inch	

16797 HU 999 23 30.1 +13 59

76.955	142.8	1.74	2	5	0.0	3	0.6	26
77.746	141.9	1.62	2	7	+0.1	3	0.5	26
77.760	142.6	1.77	2	5	0.0	3	0.5	26
77.487	142.4	1.71	3n		0.5		26-Inch	

16800 BU 1266 23 30.4 +30 50

78.836	96.9	0.20	2	7	+0.2	3	0.0	26
78.839	99.1	0.24	2	5	0.0	3	0.0	26
78.932	99.2	0.24	2	6	-0.2	3	0.0	26
80.659	93.1	0.25	2	7	0.0	4	0.0	26
80.928	95.8	0.22	2	6	0.0	4	0.2	26
81.787	89.4	0.23	2	6	-0.1	4	0.0	26
81.826	90.1	0.25	2	7	-0.1	4	0.0	26
84.713	83.1	0.23	2	5	0.0	3	0.0	26
84.946	82.1	0.22	2	7	-0.2	3	0.0	26
84.962	81.7	0.29	2	5	-0.1	3	0.0	26
78.869	98.4	0.23	3n		0.0		26-Inch	
81.300	92.1	0.24	4n		0.0		26-Inch	
84.874	82.3	0.25	3n		0.0		26-Inch	

Eggen, 1963: -2.1, -0.02; -1.9, -0.02;
-3.1, -0.02.

16807 STT 497 23 30.9 +09 29

77.760	218.7	1.44	2	5	0.0	3	0.7	26
77.946	216.3		2	5	0.0	3		26
78.836	218.2	1.30	2	6	+0.3	3	0.8	26
78.839	214.0	1.40	1	5	0.0	3	0.8	26
78.345	216.8	1.38	3n		0.8		26-Inch	

16819 HU 298 23 32.2 +07 05

77.760	56.1	0.18	2	5	+0.1	3	0.0	26
77.946	54.5	0.17	2	6	+0.2	3	0.0	26
78.836	54.7	0.14	2	6	+0.3	3		26
80.659	78.8	0.15	2	7	0.0	4		26
80.928	80.6	0.18	2	6	0.0	4		26
78.180	55.1	0.16	3n		0.0		26-Inch	
80.794	79.7	0.16	2n				26-Inch	

Cester, 1963: +3.2, -0.01; -5.7, 0.00.
Muller, 1955: +7.9, -0.03; +2.8, -0.01.

16823 A 1489 23 32.6 +49 49

76.728	29.0	0.43	1	7	0.0	4	0.4	26
79.797	33.1	0.46	2	7	0.0	4	0.5	26
79.846	30.2	0.44	2	6	0.0	4	0.4	26
78.790	30.8	0.44	3n		0.4		26-Inch	

RST 4127 23 32.7 -11 20

78.789	266.5	0.39	2	8	+0.3	1	0.2	36
78.792	274.4	0.33	2	7	+0.1	1	0.2	60
78.806	267.5	0.40	2	6	0.0	1	0.5	60
78.808	268.4	0.28	2	4	+0.4	1	0.6	60
78.789	266.5	0.39	1n		0.2		36-Inch	
78.802	270.1	0.34	3n		0.4		60-Inch	

VOU 28 BC 23 32.7 -16 45

78.789	177.9	0.50	1	8	+0.3	1	0.3	36
78.792	178.0	0.58	2	6	+0.2	1	0.2	60
78.806	179.0	0.52	1	6	+0.1	1	0.3	60
84.793	174.6	0.20	2	7	-0.1	3		60
84.795	170.4	0.25	2	5	+0.2	4		36
84.798	167.1	0.22	2	8	0.0	4	0.3	36
84.801	168.1	0.18	2	7	+0.1	4		36
78.789	177.9	0.50	1n		0.3		36-Inch	
78.799	178.5	0.55	2n		0.2		60-Inch	
84.793	174.6	0.20	1n				60-Inch	
84.798	168.5	0.22	3n		0.3		36-Inch	

Heintz, 1986: -0.3, -0.06; +0.3, 0.00;
-1.6, +0.01; -7.6, +0.03.
This pair is in rapid motion in a highly-inclined orbit.

COO 258 23 33.5 -57 02

78.770	194.9	1.97	1	5	+0.2	1	0.5	36
78.773	194.1	1.77	1	5	+0.4	1	0.5	36
78.781	194.5	1.85	2	4	+0.6	1	0.4	36
78.775	104.5	1.86	3n		0.5		36-Inch	

16836 BU 720 23 34.0 +31 20

78.839	78.5	0.47	2	5	+0.1	3	0.1	26
78.932	76.7	0.44	2	7	0.0	3	0.0	26
78.946	80.7	0.46	2	5	-0.2	3	0.4	26
84.713	81.3	0.57	2	5	0.0	3	0.0	26
84.946	84.8	0.52	2	7	0.0	3	0.0	26
84.962	83.8	0.50	2	5	-0.2	3	0.0	26
78.906	78.6	0.46	3n		0.2		26-Inch	
84.874	83.3	0.53	3n		0.0		26-Inch	

Baize, 1976: -0.9, -0.05; -1.4, +0.01.

16850 SEE 492 23 35.7 -27 29

78.806	275.4	0.51	2	6	+0.2	1	1.2	60
78.808	275.2	0.41	2	5	+0.6	1	1.1	60
78.807	275.3	0.46	2n		1.2		60-Inch	

Costa, Docobo, 1983: +2.4, 0.00.
Heintz, 1984: +2.5, +0.01.

16858 BU 721 23 36.3 -07 07

78.789	138.2	0.25	2	8	+0.4	1	0.1	36
78.792	139.5	0.18	2	6	+0.3	1	0.0	60
78.803	138.4	0.18	2	5	+0.5	1	0.4	60
78.789	138.2	0.25	1n		0.1		36-Inch	
78.798	139.0	0.18	2n		0.2		60-Inch	

16866 ES 401 23 36.8 +30 45

78.932	68.6	2.63	2	7	0.0	3	2.0	26
79.885	68.3	2.46	2	7	-0.1	4	2.8	26
79.956	67.1	2.46	2	7	-0.1	3	3.0	26
79.591	68.0	2.52	3n		2.6		26-Inch	

16873 FOX 102 23 37.4 +07 37

79.718	286.7	0.23	2	5	0.0	3		26
79.797	288.9		2	7	+0.1	4	0.0	26
79.846	288.6	0.26	2	7	+0.4	4	0.0	26
79.885	293.2	0.24	2	6	0.0	4	0.3	26
79.890	293.8	0.20	2	5	-0.2	3		26
86.690	312.9	0.29	2	6	+0.1	3		26
86.808	306.4	0.23	2	7	-0.1	3	0.0	26
86.824	310.9	0.24	2	6	0.0	3	0.0	26
86.884	307.9	0.17	2	8	0.0	3		26
79.835	290.6	0.23	4n		0.1		26-Inch	
86.802	309.5	0.23	4n		0.0		26-Inch	

Popovic, 1973: +2.7, -0.07; +8.0, -0.07.

16877	STT 500			23 37.5 +44 26					
80.659	359.9	0.45	2	7	0.0	4	1.2	26	
80.928	358.4	0.60	2	5	+0.1	4	0.8	26	
80.944	359.1	0.51	2	4	-0.5	3	0.8	26	
80.963	1.4	0.65	2	4	-0.6	3		26	
86.690	1.4	0.61	2	6	0.0	3	0.5	26	
86.767	1.0	0.61	2	5	-0.1	3	0.5	26	
86.808	359.5	0.59	2	6	-0.1	3	0.3	26	
86.824	0.4	0.50	2	7	0.0	3	0.2	26	
80.874	359.7	0.55	4n	0.9	26-Inch				
86.772	0.6	0.58	4n	0.4	26-Inch				

Zulevic, 1981: +1.2, +0.04; -0.7, +0.09.

	DON 1051			23 37.6 -20 31					
84.790	204.6	0.77	2	8	+0.4	3	0.8	60	
84.793	205.9	0.78	2	8	0.0	3	0.8	60	
84.792	205.2	0.78	2n	0.8	60-Inch				

	FIN 291			23 38.3 -52 29					
84.790	123.8	2.38	2	8	+0.2	3	3.0	60	
84.793	124.0	2.37	2	7	+0.2	3	1.6	60	
84.792	123.9	2.38	2n	2.3	60-Inch				

16921	BU 857			23 40.5 +67 33					
79.915	299.7	1.29	2	5	-0.1	3	0.8	26	
79.923	298.4	1.44	2	5	-0.3	4	0.5	26	
79.945	298.0	1.52	2	4	-0.1	3	0.3	26	
79.928	298.7	1.42	3n	0.5	26-Inch				

16928	BU 858			23 41.3 +32 34					
79.890	235.0	0.84	2	5	-0.2	3	1.2	26	
79.945	233.7	0.92	2	6	+0.1	3	0.8	26	
79.956	233.2	0.97	2	6	0.0	3	0.6	26	
79.930	234.0	0.91	3n	0.9	26-Inch				

16929	A 423			23 41.4 -08 38					
78.776	189.6	1.82	1	5	+0.4	1	1.0	36	
78.784	191.5	1.83	1	8	+0.3	1	0.8	36	
78.787	192.1	1.84	2	6	+0.4	1	0.8	36	
78.782	191.1	1.83	3n	0.9	36-Inch				

	RST 4130			23 41.5 -11 58					
84.773	100.9	0.49	2	6	+0.1	3	0.6	60	
84.782	99.9	0.37	2	6	-0.2	3	0.6	60	
84.784	100.2	0.41	2	5	+0.4	3	0.0	60	
84.780	100.3	0.42	3n	0.4	60-Inch				

	HU 1550			23 41.5 -41 35					
78.784	10.7	0.81	2	7	+0.5	1	0.3	36	
78.787	14.0	0.75	2	6	+0.6	1	0.4	36	
78.789	12.5	0.75	2	6	+0.5	1	0.2	36	
78.784	12.4	0.78	3n	0.3	36-Inch				

16942	STT 504			23 42.6 +18 40					
84.713	177.4	7.89	2	5	-0.1	3	3.5	26	
84.946	174.8	7.63	1	7	0.0	3	2.5	26	
84.962	174.6	7.63	2	5	-0.1	3	2.5	26	
84.874	175.6	7.72	3n	2.8	26-Inch				

16951	A 1242			23 43.1 +11 50					
78.932	324.7	0.93	2	7	0.0	3	0.2	26	
78.948	328.3	0.89	2	5	-0.3	3	0.2	26	
79.718	324.7	0.91	2	5	-0.1	3	0.1	26	
79.199	325.9	0.91	3n	0.2	26-Inch				

Zulevic, 1977: +1.3, +0.16.

	B 613			23 44.9 -38 20					
84.798	119.4	0.18	2	8	-0.1	4	0.2	36	
84.801	120.0	0.18	2	7	+0.2	4		36	
84.800	119.7	0.18	2n	0.2	36-Inch				

16970	STT 505			23 45.5 +20 25					
80.944	59.4	2.16	2	4	-0.3	3	3.2	26	
80.964	62.3	2.40	2	4	-0.4	3	3.0	26	
81.867	62.0	2.43	2	5	-0.1	4	3.0	26	
81.886	59.1	2.20	2	4	-0.3	3	2.8	26	
81.640	60.7	2.30	4n	3.0	26-Inch				

	FIN 292			23 45.8 -69 41					
78.773	7.8	2.13	4	5	+0.3	1	0.4	36	
78.781	8.1	2.15	1	4	+0.5	1	0.2	36	
78.784	6.2	2.13	1	6	+0.5	1	0.2	36	
78.779	7.4	2.14	3n	0.3	36-Inch				

16989	BU 726			23 46.6 -12 45					
84.790	299.8	0.64	2	7	+0.3	3	1.5	60	
84.793	297.8	0.72	2	6	-0.1	3	1.2	60	
84.792	298.8	0.68	2n	1.4	60-Inch				

17001	D 27			23 47.3 +63 13					
79.915	356.1	2.04	2	5	-0.1	3	2.4	26	
79.923	355.4	2.01	2	5	-0.2	4	2.0	26	
79.945	356.0	2.05	2	5	+0.1	3	2.4	26	
79.928	355.8	2.03	3n	2.3	26-Inch				

MICROMETER MEASURES OF 2589 DOUBLE STARS
TABLE 2 (Cont.)

16999 A 1245 23 47.3 +09 28

81.864	31.0	1.99	2	5	-0.4	3	0.0	26
81.867	30.9	1.94	2	5	0.0	4	0.1	26
81.897	31.7	1.91	2	5	-0.4	3	0.3	26
81.960	33.2	2.00	2	6	-0.3	3	0.0	26
81.897	31.7	1.96	4n		0.1		26-Inch	

17000 I 696 23 47.4 -22 17

78.806	185.8	1.35	1	6	+0.1	1	1.8	60
78.808	186.8	1.37	2	5	+0.3	1	1.8	60
78.807	186.3	1.36	2n		1.8		60-Inch	

17005 BU 727 23 47.5 +25 34

75.575	319.5	16.28	2	5	0.0	4	6.0	26
75.635	319.0	16.36	2	7	+0.1	3	6.0	26
75.605	319.2	16.32	2n		6.0		26-Inch	

17006 BU 995 23 47.6 +46 50

80.659	241.9	0.84	2	7	0.0	4	2.0	26
81.787	241.5	0.87	4	5	-0.2	4	2.0	26
81.826	240.1	0.89	4	5	-0.1	4	2.0	26
81.424	241.2	0.87	3n		2.0		26-Inch	

17010 BU 1152 BC 23 48.0 +63 49

79.915	102.4	0.77	2	5	-0.1	3	0.2	26
79.923	104.3	0.94	2	5	-0.3	4	0.3	26
79.945	102.3	0.83	2	5	+0.2	3	0.2	26
79.928	103.0	0.85	3n		0.2		26-Inch	

17020 STT 507 23 48.6 +64 53

79.915	303.2	0.82	2	5	0.0	3	0.5	26
79.923	302.7	0.81	2	5	-0.2	4	0.6	26
79.945	304.8	0.78	2	5	+0.3	3	0.6	26
79.928	303.6	0.80	3n		0.6		26-Inch	

Zulevic, 1977: -0.3, +0.06.

17030 A 424 23 49.9 +27 40

77.746	102:	0.14	2	7	0.0	4		26
77.946	98.7	0.17	2	6	+0.1	3		26
78.932	88.5	0.18	2	7	+0.1	3		26
78.208	96.4	0.16	3n				26-Inch	

Heintz, 1984: -4.1, -0.01.
Baize, 1984: -5.1, -0.02.

17036 A 792 23 50.5 +47 03

86.808	266.5	0.69	2	6	-0.1	3	0.2	26
86.824	264.8	0.67	2	6	-0.1	3	0.2	26
86.830	266.0	0.68	2	6	-0.3	3	0.3	26
86.821	265.8	0.68	3n		0.2		26-Inch	

SLR 14 23 50.6 -51 43

78.770	204.1	0.58	2	5	+0.2	1	0.4	36
78.773	201.2	0.48	1	5	+0.3	1		36
78.776	202.4	0.44	4	3	+1.0	1		36
84.795	166.2	0.47	2	5	+0.1	4		36
84.798	166.6	0.49	2	8	0.0	4	0.2	36
84.801	168.0	0.47	2	6	0.0	4	0.3	36
78.773	202.6	0.50	3n		0.4		36-Inch	
84.798	166.9	0.48	3n		0.2		36-Inch	

Heintz, 1978: -1.0, -0.15; -12.4, -0.20.
The orbit fails.

17050 STT 510 23 51.5 +42 05

86.808	307.0	0.59	2	5	0.0	3	0.3	26
86.824	305.8	0.49	2	6	0.0	3	0.3	26
86.830	307.1	0.51	2	7	-0.2	3	0.2	26
86.821	306.6	0.53	3n		0.3		26-Inch	

17052 A 2700 23 51.7 -06 37

78.789	188.8	0.22	2	8	+0.3	1	0.0	36
78.792	190.6	0.20	1	6	+0.3	1	0.0	60
78.803	190.5	0.18	1	5	+0.3	1	0.0	60
84.773	122.4	0.15	2	6	+0.1	3		60
84.782	127.0	0.15	2	6	-0.3	3	0.0	60
84.787	128.8	0.14	2	6	+0.2	3		60
78.789	188.8	0.22	1n		0.0		36-Inch	
78.798	190.6	0.19	2n		0.0		60-Inch	
84.781	126.1	0.15	3n		0.0		60-Inch	

Baize, 1959: +8.8, 0.00; +10.7, -0.03;
-0.9, 0.00.

17060 A 1247 23 52.0 +12 52

81.864	269.7	0.38	2	4	-0.4	3		26
81.867	269.0	0.38	2	5	0.0	4	0.3	26
81.897	272.3	0.32	2	5	-0.4	3	0.4	26
81.876	269.7	0.36	3n		0.4		26-Inch	

17069 HU 1327 23 52.5 +12 52

81.864	33.2	1.92	2	5	-0.3	3	0.1	26
81.867	33.3	1.72	2	5	0.0	4	0.2	26
81.897	33.9	1.86	2	6	-0.3	3	0.2	26
81.960	34.3	1.80	2	5	-0.3	3	0.2	26
81.897	33.7	1.82	4n		0.2		26-Inch	

17073 BU 1153 23 52.7 +60 42

76.728	322.8	0.50	3	7	0.0	4	0.3	26
76.728	322.8	0.50	1n		0.3		26-Inch	

17105 A 426 23 56.2 +25 20

79.797	332.6	0.31	2	7	-0.1	4	0.3	26
79.885	328.8	0.34	2	7	-0.2	4	0.3	26
79.890	326.6	0.35	2	5	-0.4	3	0.3	26
79.857	329.3	0.33	3n		0.3		26-Inch	

Heintz, 1962: +4.2, +0.04.
Costa, Docobo, 1983: +3.0, +0.03.

17111 A 2100 23 56.8 +04 43

77.746	199.0	0.26	1	5	0.0	4	0.5	26
77.760	197.8	0.24	1	5	-0.1	3	0.6	26
77.946	197.5	0.23	1	5	+0.1	3	0.6	26
77.817	198.1	0.24	3n		0.6		26-Inch	

Heintz, 1975: -1.4, -0.03.

17126 STF 3047 23 57.9 +57 23

79.923	74.5	1.26	2	4	-0.2	4	0.0	26
80.659	73.4	1.19	2	7	0.0	4	0.4	26
80.928	73.4	1.10	2	5	0.0	4	0.2	26
80.503	73.8	1.18	3n		0.2		26-Inch	

17141 HLD 59 23 59.1 +53 15

79.923	14.0	1.16	2	5	-0.1	4	0.0	26
80.659	14.1	1.15	2	7	0.0	4	0.2	26
80.928	10.4	1.08	2	5	0.0	4	0.3	26
80.503	12.8	1.13	3n		0.2		26-Inch	

17151 A 1498 23 59.5 +54 41

86.690	83.4	0.46	2	5	0.0	3	0.3	26
86.808	86.2	0.40	2	5	0.0	3		26
86.824	84.3	0.34	2	6	-0.1	3	0.2	26
86.830	85.3	0.36	2	7	-0.2	3	0.2	26
86.788	84.8	0.39	4n		0.2		26-Inch	

17149 STF 3050 23 59.5 +33 43

78.948	308.6	1.74	2	5	-0.4	3	0.4	26
79.718	306.9	1.60	2	5	-0.2	3	0.1	26
79.797	308.9	1.65	2	8	-0.1	4	0.2	26
79.846	306.4	1.62	2	7	+0.2	4	0.2	26
84.962	315.3	1.60	2	5	-0.4	3	0.0	26
85.967	316.3	1.78	2	5	-0.4	3	0.2	26
85.997	315.8	1.89	2	5	-0.3	3	0.3	26
79.577	307.7	1.65	4n		0.2		26-Inch	
85.642	315.8	1.76	3n		0.2		26-Inch	

Heintz, 1974: -0.8, +0.11; -0.9, +0.16.
Franz, 1955: -2.2, -0.05; -1,9, -0.07.

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